

## WENDY K. TAM CHO

University of Illinois at Urbana-Champaign  
Department of Political Science  
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### EDUCATION

- Ph.D. *Political Science*, University of California at Berkeley,  
Berkeley, California, 1997
- M.A. *Statistics*, University of California at Berkeley,  
Berkeley, California, 1997
- M.A. *Political Science*, University of California at Berkeley,  
Berkeley, California, 1992
- J.D. Program *Law*, Cornell University,  
Ithaca, New York, 1990–1991
- A.B. *Applied Mathematics* (applied field: *Computer Science*),  
University of California at Berkeley, Berkeley, California, 1990
- A.B. *Political Science*, University of California at Berkeley,  
Berkeley, California, 1990

### ACADEMIC APPOINTMENTS

- University of Illinois at Urbana-Champaign  
Professor, Department of Political Science, 2010–  
Professor, Department of Statistics, 2010–  
Professor, Department of Mathematics, 2018–  
Professor, Department of Asian American Studies, 2010–  
Professor, College of Law, 2018–  
Senior Research Scientist, National Center for Supercomputing Applications, 2006–  
Faculty, Illinois Informatics Institute, Data Analytics and Information Visualization, 2010–  
Affiliate, Computational Science and Engineering Program, 2010–  
Affiliate, CyberGIS Center for Advanced Digital and Spatial Studies, 2013–2018.  
Affiliate, Cline Center for Advanced Social Research, 2007–  
Affiliate, Program on Law, Behavior, and Social Science, College of Law, 2017–  
Associate Professor, Departments of Political Science, Statistics, and Asian American  
Studies, 2006–2010
- Stanford University  
Visiting Fellow, Hoover Institution, 2018–2020  
Fellow, Center for Advanced Study in the Behavioral Sciences, 2019–2020
- Northwestern University  
Associate Professor, Department of Political Science, 2005–2006
- University of Illinois at Urbana-Champaign  
Associate Professor, Departments of Political Science and Statistics, 2001–2005  
Assistant Professor, Department of Political Science, 1997–2001  
Assistant Professor, Department of Statistics, 1999–2001

## PUBLICATIONS

- “Parallel Hybrid Metaheuristics with Distributed Intensification and Diversification for Large-scale Optimization in Big Data Statistical Analysis,” with Yan Y. Liu. In *Proceedings of the 2019 IEEE International Conference on Big Data: 6th Workshop on Performance Engineering with Advances in Software and Hardware for Big Data Science*. December 9–12, 2019. Los Angeles, CA, USA.
- “Rejoinder to ‘Understanding our Markov Chain Significance Test’,” with Simon Rubinstein-Salzedo. *Statistics and Public Policy* 6, 1 (2019): 54.
- “Understanding Significance Tests from a Non-Mixing Markov Chain for Partisan Gerrymandering Claims,” with Simon Rubinstein-Salzedo. *Statistics and Public Policy* 6, 1 (2019): 44–49.
- “Technology-Enabled Coin Flips for Judging Partisan Gerrymandering.” *Southern California Law Review Postscript* 93 (May 2019): 11–27. [https://southerncalifornialawreview.com/wp-content/uploads/2019/06/93\\_Cho\\_Final.pdf](https://southerncalifornialawreview.com/wp-content/uploads/2019/06/93_Cho_Final.pdf)
- “Migration as an Opportunity to Register Changing Partisan Loyalty in the U.S.,” with James G. Gimpel and Iris Hui. *Population, Space and Place* 25, 4 (May 2019).
- “A Massively Parallel Evolutionary Markov Chain Monte Carlo Algorithm for Sampling Complicated Multimodal State Spaces,” with Yan Y. Liu. 2018. Extended Abstract. *SC18: The International Conference for High Performance Computing, Networking, Storage and Analysis*. November 11–16. Dallas, TX.
- “Algorithms Can Foster a More Democratic Society.” *Nature* 558 (June 28, 2018): 487. <https://www.nature.com/articles/d41586-018-05498-y>
- “Sampling from Complicated and Unknown Distributions: Monte Carlo and Markov Chain Monte Carlo Methods for Redistricting,” with Yan Y. Liu. *Physica A* 506 (September 2018): 170–178.
- “An Evolutionary Algorithm for Subset Selection in Causal Inference Models.” *Journal of the Operational Research Society* 69, 4 (2018): 630–644.
- “A Reasonable Bias Method for Redistricting: A New Tool for an Old Problem,” with Bruce E. Cain, Yan Y. Liu, and Emily Zhang. *William & Mary Law Review* 59, 5 (April 2018): 1521–1557.
- “Massively Parallel Evolutionary Computation for Empowering Electoral Reform: Quantifying Gerrymandering via Multi-objective Optimization and Statistical Analysis,” with Yan Y. Liu. 2017. Extended Abstract. *SC17: The International Conference for High Performance Computing, Networking, Storage and Analysis*. November 12–17. Denver, CO.
- “Measuring Partisan Fairness: How well does the Efficiency Gap Guard against Sophisticated as well as Simple-Minded Modes of Partisan Discrimination?” *University of Pennsylvania Law Review Online* 166 (July 2017): 17–36. <https://www.pennlawreview.com/essays/index.php?id=59>  
— Press coverage by *The Weekly Standard*, *WisCommunity*
- “Causal Inferences from Many Experiments.” *Journal of Applied Statistics* 44, 16 (2017): 2908–2922.
- “Toward a Talismanic Redistricting Tool: A Computational Method for Identifying Extreme Redistricting Plans,” with Yan Y. Liu. *Election Law Journal* 15, 4 (December 2016): 351–366.  
— First Place Winner of the 2016 Common Cause “Gerrymander Standard” writing competition.  
— Press coverage by Cray Inc., the National Center for Supercomputing Applications, *Science Node*, *Chicago Inno*, *Vox*, *Quanta Magazine*, *HPC Wire*, *Top 500*, *WIRED*, *EdgyLabs*, *Admin Magazine*, *Primeur Magazine*, *Salon*, *Communications of the ACM*, the Blue Waters Annual Report, *Nature*, *Big Think*, *Reason*, *The Washington Post*, *NPR*, *NOVA PBS*, *eWeek*, *Communications of the ACM*, *Medium*, *Dziennikz Związkowy Polish Daily News*, *Siam News*, *UI News Bureau*, *News-Gazette*, *Agence Science-Presse*, *Technet.cz*, the Mathematical Association of America, *Akron Beacon Journal*, *Cincinnati.com*, *The Indiana Lawyer*, *NCSA*, *R&D Magazine*, and *HPC Wire*.

## PUBLICATIONS (cont.)

- “A Scalable Evolutionary Algorithm with Intensification and Diversification Protocols Designed for Statistical Models,” with Yan Y. Liu. 2016. Extended Abstract. *SC16: The International Conference for High Performance Computing, Networking, Storage and Analysis*. November 13–18. Salt Lake City, UT.
- “PEAR: A Massively Parallel Evolutionary Computation Approach for Political Redistricting Optimization and Analysis,” with Yan Y. Liu and Shaowen Wang. *Swarm and Evolutionary Computation* 30 (October 2016): 78–92.
- “A Parallel Evolutionary Algorithm for Subset Selection in Causal Inference Models,” with Yan Y. Liu. 2016. In *Proceedings of the 2016 Annual Conference on Extreme Science and Engineering Discovery Environment*. XSEDE’16: Diversity, Big Data, & Science at Scale. July 17–21. Miami, FL.
- “A High-Performance Approach for Solution Space Traversal in Combinatorial Optimization,” with Yan Y. Liu. 2015. Extended Abstract. *SC15: The International Conference for High Performance Computing, Networking, Storage and Analysis*. November 16–19. Austin, TX.
- “A Scalable Computational Approach to Political Redistricting Optimization,” with Yan Y. Liu and Shaowen Wang. 2015. In *Proceedings of the 2015 Annual Conference on Extreme Science and Engineering Discovery Environment*. XSEDE’15: Scientific Advancements Enabled by Enhanced Cyberinfrastructure. July 26–30. St. Louis, MO.  
— The overall redistricting project that began with this publication was the winner of the 2019 Hyperion Research [HPC Innovation Excellence Award](#) which recognizes scientific achievement by users of high performance computing (HPC) technologies.
- “An Information Theoretic Approach to Network Tomography,” with George Judge. *Applied Economics Letters* 22, 1 (January 2015): 1–6.
- “Voter Migration and the Geographic Sorting of the American Electorate,” with James G. Gimpel and Iris S. Hui. *Annals of the Association of American Geographers* 103, 4 (2013): 856–870.  
— Press coverage by [The New York Times](#), [Harvard Political Review](#), [London School of Economics US Centre Blog](#)
- “Balance Optimization Subset Selection (BOSS): An Alternative Approach to Causal Inference with Observational Data,” with Alexander Nikolaev, Sheldon H. Jacobson, Jason Sauppe, and Edward C. Sewell. *Operations Research* 61, 2 (March/April 2013): 398–412.
- “An Optimization Approach for Making Causal Inferences,” with Jason J. Sauppe, Alexander G. Nikolaev, Sheldon H. Jacobson and Edward C. Sewell. *Statistica Neerlandica* 27, 2 (May 2013): 211–226.
- “Geo-Graphs: An Efficient Model for Enforcing Contiguity and Hole Constraints in Planar Graph Partitioning,” with Douglas M. King, Sheldon H. Jacobson, and Edward C. Sewell. *Operations Research* 60, 5 (September–October 2012): 1213–1228.
- “Geographic Information Systems and the Spatial Dimensions of American Politics,” with James G. Gimpel. *Annual Review of Political Science* 15 (June 2012): 443–460.
- “The Tea Party and the Geography of Collective Action,” with James G. Gimpel and Daron R. Shaw. *Quarterly Journal of Political Science* 7, 2 (April 2012): 105–133.
- “An Analysis of Daily Predictions for the 2008 United States Presidential Election,” with Steven E. Rigdon, Sheldon H. Jacobson, Edward C. Sewell, and Christopher J. Rigdon. *Case Studies in Business, Industry and Government Statistics* 4, 1 (November 2011): 1–8.
- “Environmental Determinants of Racial Attitudes Redux: The Critical Decisions Related to Operationalizing Context,” with Neil Baer. *American Politics Research* 39, 2 (March 2011): 414–433.
- “Stigler’s Approach to Recovering the Distribution of First Significant Digits in Natural Data Sets,” with Joanne Lee and George G. Judge. *Statistics and Probability Letters* 80, 2 (February 2010): 82–88.

**PUBLICATIONS (cont.)**

- "Rough Terrain: Spatial Variation in Campaign Contributing and Volunteerism," with James G. Gimpel. *American Journal of Political Science* 54, 1 (January 2010): 74–89.
- "Legislative Success in a Small World: Social Network Analysis and the Dynamics of Congressional Legislation," with James H. Fowler. *Journal of Politics* 72, 1 (January 2010): 124–135.
- "A Bayesian Prediction Model for the United States Presidential Election," with Steven E. Rigdon, Sheldon H. Jacobson, Edward C. Sewell, and Christopher J. Rigdon, *American Politics Research* 37, 4 (July 2009): 700–724.
- "Presidential Voting and the Local Variability of Economic Hardship," with James G. Gimpel, *The Forum* 7, 1 (April 2009): Article 1.
- "A Political Powerhouse in Search of a Home," with James G. Gimpel, *Asian American Policy Review* (2008) 17: 91–98.
- "Geographic Proximity versus Institutions: Evaluating Borders as Real Political Boundaries," with Erinn P. Nicley. *American Politics Research* 36, 6 (November 2008): 803–823.
- "Recovering Vote Choice from Partial Incomplete Data," with George G. Judge. *Journal of Data Science* 6, 2 (April 2008): 155–171.
- "Emanating Political Participation: Untangling the Spatial Structure behind Participation," with Thomas J. Rudolph. *British Journal of Political Science* 38, 2 (April 2008): 273–289.
- "Information Theoretic Solutions for Correlated Bivariate Processes," with George G. Judge. *Economics Letters* 97, 3 (December 2007): 201–207.
- "Breaking the (Benford) Law: Statistical Fraud Detection and Campaign Finance," with Brian J. Gaines. *The American Statistician* 61, 3 (August 2007): 218–223.
- "Prospecting for (Campaign) Gold," with James G. Gimpel. *American Journal of Political Science* 51, 2 (April 2007): 255–268.
- "Spatial Dimensions of Arab American Voter Mobilization after September 11," with James G. Gimpel, and Tony Wu. *Political Geography* 26, 3 (March 2007): 330–351.
- "Clarifying the Role of SES in Political Participation: Policy Threat and Arab American Mobilization," with James G. Gimpel and Tony Wu. *Journal of Politics* 68, 4 (November 2006): 974–988.
- "Residential Concentration, Socialization, and Voter Turnout," with James G. Gimpel and Joshua J. Dyck. *Journal of Politics* 68, 1 (February 2006): 156–167.
- "Panethnicity Revisited: Asian Indians, Asian American Politics, and the Voting Rights Act," with Albert H. Yoon. *UCLA Asian Pacific American Law Journal* 10 (2005): 8–30.
- "The Persistence of White Ethnicity in New England Politics," with James G. Gimpel. *Political Geography* 23, 8 (November 2004): 987–1008.
- "On California's 1920 Alien Land Law: The Psychology and Economics of Discrimination," with Brian J. Gaines. *State Politics and Policy Quarterly* 4, 3 (Fall 2004): 271–293.
- "Subcontinental Divide: Asian Indians and Asian American Politics," with Suneet P. Lad. *American Politics Research* 32, 3 (May 2004): 239–263.
- "The Limits of Ecological Inference: The Case of Split-Ticket Voting," with Brian J. Gaines. *American Journal of Political Science* 48, 1 (January 2004): 152–171.
- "Contagion Effects and Ethnic Contribution Networks." *American Journal of Political Science* 47, 2 (April 2003): 368–387.
- "Conceptualizing Space," with Luc Anselin. *Political Analysis* 10, 3 (Summer 2002): 301–303.

**PUBLICATIONS (cont.)**

- "Spatial Effects and Ecological Inference," with Luc Anselin.  
*Political Analysis* 10, 3 (Summer 2002): 276–297.
- "Tapping Motives and Dynamics Behind Campaign Contributions: Insights from the Asian American Case." *American Politics Research* 30, 4 (July 2002): 347–383.
- "Foreshadowing Strategic Pan-Ethnic Politics: Asian American Campaign Finance Activity in Varying Multicultural Contexts." *State Politics and Policy Quarterly* 1, 3 (September 2001): 273–294.
- "Asian-Pacific-American Campaigns, Elections, and Elected Officials," with James S. Lai, Thomas P. Kim, and Okiyoshi Takeda. *PS: Political Science and Politics* 34, 3 (September 2001): 611–617.
- "Latent Groups and Cross-Level Inferences."  
*Electoral Studies* 20, 2 (June 2001): 243–263.
- "Strange Bedfellows: Politics, Courts, and Statistics: Statistical Expert Testimony in Voting Rights Cases," with Albert H. Yoon. *Cornell Journal of Law and Public Policy* 10, 2 (Spring 2001): 237–264.
- "Naturalization, Socialization, Participation: Immigrants and (Non-) Voting." *Journal of Politics* 61, 4 (November 1999): 1140–1155.
- "Iff the Assumption Fits...: A Comment on the King Ecological Inference Solution." *Political Analysis* 7 (1998): 143–163.
- "Asians—A Monolithic Voting Bloc?"  
*Political Behavior* 17, 2 (June 1995): 223–249.

**REFEREED CONFERENCES**

- "A High-Performance Evolutionary Computation Framework for Scalable Spatial Optimization," with Yan Y. Liu. 2018. *ICCS: International Conference on Computational Science: Science at the Intersection of Data, Modelling and Computation*. June 11–13. Wuxi, China.

**BOOK CHAPTERS**

- "Spatial Dimensions of American Politics," with Iris Hui in Cao, Kai and Elisabete A. Silva, eds., *Comprehensive Geographic Information Systems. GIS Applications (socio-economic)*. Elsevier. 2018, Volume 3, Chapter 13, pp. 181–188.
- "Legislative Networks," with Nils Ringe and Jennifer Nicoll Victor in Victor, Jennifer Nicoll, Mark Lubell, and Alexander H. Montgomery, eds., *Oxford University Press Handbook of Political Networks*, Oxford University Press. 2017, Chapter 19, pp. 471–489.
- "Generalizing Benford's Law: A Re-examination of Falsified Clinical Data," with Joanne Lee and George Judge in Miller, Steven J., Arno Berger, and Ted Hill, eds., *Theory and Applications of Benford's Law*, Princeton and Oxford: Princeton University Press. 2014, pp. 302–314.
- "Ecological Inference," in Badie, Bertrand, Dirk Berg-Schlosser, and Leonardo Morlino, eds., *International Encyclopedia of Political Science*, Sage Publications, Inc., 2011, pp. 1185–1187.
- "Demythifying the Asian-American Campaign Contributor," in Cain, Bruce E., Jaime Regalado, and Sandra Bass, eds., *Racial and Ethnic Politics in California, Volume III*, Berkeley, CA: Berkeley Public Policy Press, Institute of Governmental Studies, 2008, pp. 37–60.
- "Cross-Level/Ecological Inference," with Charles F. Manski, in Box-Steffensmeier, Janet, Henry E. Brady, and David Collier, eds., *Oxford Handbook of Political Methodology*. Oxford University Press, 2008, pp. 547–569.

**BOOK CHAPTERS (cont.)**

- “An Information Theoretic Approach to Ecological Estimation and Inference,” with George G. Judge and Douglas J. Miller, in King, Gary, Ori Rosen, and Martin Tanner, eds., *Ecological Inference: New Methodological Strategies*. Cambridge University Press, 2004, pp. 162–187.
- “Campaigns, Elections, and Elected Officials,” with James S. Lai, Thomas P. Kim, and Okiyoshi Takeda, in Nakanishi, Don T. and James S. Lai, eds., *Asian American Politics: Law, Participation, and Policy*, Rowman & Littlefield Publishers, Inc., 2003, pp. 317–330. Reprinted from *PS: Political Science and Politics* 34, 3 (September 2001): 611–617.
- “Candidates, Donors, and Voters in California’s First Blanket-Primary Elections,” with Brian J. Gaines, in Cain, Bruce E. and Elisabeth R. Gerber, eds., *Voting at the Political Fault Line: California’s Experiment with the Blanket Primary*, Berkeley, CA: University of California Press, 2002, pp. 171–191.
- “Crossover Voting Before the Blanket: Primaries versus Parties in California History,” with Brian J. Gaines, in Cain, Bruce E. and Elisabeth R. Gerber, eds., *Voting at the Political Fault Line: California’s Experiment with the Blanket Primary*, Berkeley, CA: University of California Press, 2002, pp. 12–35.
- “Asian Americans as the Median Voters: An Exploration of Attitudes and Voting Patterns on Ballot Initiatives,” with Bruce E. Cain, in Chang, Gordon H., ed., *Asian Americans and Politics: Perspectives, Experiences, Prospects*, Washington, DC: Woodrow Wilson Center Press and Stanford, CA: Stanford University Press, 2001, pp. 133–152.

**RESEARCH GRANTS****NATIONAL SCIENCE FOUNDATION GRANTS**

- National Science Foundation, Social, Behavioral, and Economic Sciences. Political Science Program. 2017–2020. “Collaborative Research: High-Performance Computational Standards for Redistricting.” Principal Investigator. Co-PIs: Yan Liu and Bruce Cain. Grant No. SES-1725418/1728902. \$453,476.
- National Science Foundation, Major Research and Instrumentation Program. Software Institutes. 2014–2017. “Acquisition of a National CyberGIS Facility for Computing and Data-Intensive Geospatial Research and Education.” Senior Personnel. Grant No. 1429699. \$1,787,335.
- National Science Foundation, Social, Behavioral, and Economic Sciences. Methodology, Measurement, and Statistics Program and Political Science Program. 2009–2012. Research Grant for the project “Collaborative Research: Shifting Paradigms: Causal Inference via Subset Selection.” Principal Investigator. Co-PIs: Sheldon Jacobson and Edward Sewell. Grant No. SES-0849223. \$278,767.
- National Science Foundation, Computer & Information Science & Engineering Program, Information, Integration, and Informatics Cluster. 2008–2009. Research Grant for the project “A Computational Approach to Zoning Analysis.” Principal Investigator. Co-PI: Sheldon Jacobson. Grant No. IIS-0827540. \$99,999
- National Science Foundation, Social, Behavioral, and Economic Sciences. Methodology, Measurement, and Statistics Program. 1998–1999. Research Grant for the project “Advancement of Methods for Ecological Inference.” Principal Investigator. Grant No. SBR-9806448.

**SUPERCOMPUTING GRANTS**

- Blue Waters Supercomputing Allocation Grant, “Parallel Hybrid Metaheuristics with Distributed Intensification and Diversification for Large-scale Optimization in Statistical Analysis.” Principal Investigator (Co-PI: Yan Y. Liu). 2019–2020. One-year allocation of 50,000 node hours, approximately **0.8 million normalized computing hours** on Blue Waters’s 724,480 processor cores.

San Diego Supercomputing Center (SDSC) Comet Supercomputing Allocation Grant. “Extreme-Scale Computing for Large Spatial Optimization and Sampling.” 2019–2020. NSF XSEDE Allocation Award. **1,000 GPU hours**.

Texas Advanced Computing Center (TACC) Stampede2 Supercomputing Allocation Grant. “Extreme-Scale Computing for Large Spatial Optimization and Sampling.” 2019–2020. NSF XSEDE Allocation Award. 1,600 node hours, approximately **108,800 normalized computing hours** on Stampede2’s 285,600 Knights Landing and 83,328 Skylake processor cores.

Blue Waters Supercomputing Allocation Grant, “Massively Parallel Evolutionary Markov Chain Monte Carlo for Sampling Complicated Multimodal State Spaces.” Principal Investigator (Co-PIs: Yan Y. Liu and Simon Rubinstein-Salzedo). 2018–2019. One-year allocation of 100,000 node hours, approximately **1.6 million normalized computing hours** on Blue Waters’s 724,480 processor cores.

Blue Waters Supercomputing Allocation Grant, “Enabling Redistricting Reform: A Computational Study of Zoning Optimization.” Principal Investigator (Co-PIs: Yan Y. Liu and Bruce Cain). 2017–2018. One-year allocation of 400,000 node hours, approximately **6.4 million normalized computing hours** on Blue Waters’s 724,480 processor cores.

Blue Waters Supercomputing Allocation Grant, “A Computational Model for Causal Inference via Subset Selection.” Principal Investigator. 2015–2016. One-year allocation of 50,000 node hours, approximately **800,000 normalized computing hours**, on Blue Waters’s 724,480 processor cores.

Blue Waters Supercomputing Allocation Grant, “An Extreme-Scale Computational Approach to Redistricting Optimization.” Co-Principal Investigator (Co-PIs: Shaowen Wang and Yan Y. Liu). 2013–2015. One-year allocation of 0.6 million node hours, approximately **9.8 million normalized computing hours**, on Blue Waters’s 724,480 processor cores.

#### ADDITIONAL RESEARCH GRANTS

Interdisciplinary Innovation Initiative (In<sup>3</sup>) Grant, “Analytical Enhancements to a Unique UI Resource.” Co-Principal Investigator (with Scott Althaus, Peter Nardulli, Dan Roth, and Joseph Houston). 2012. \$50,000.

CIRCLE/Pew Charitable Trusts Project Grant, “Field Experiments on Turnout in the 2004 Elections.” 2004. Co-Principal Investigator (with James Gimpel and Daron Shaw).

Ahmanson Community Trust Foundation Grant, “Statistical Approaches to the Analysis of Surname Coded Data.” Principal Investigator, James Gimpel. Project Subcontract to Wendy K. Tam Cho January 2002–January 2005. Total Grant: \$101,000.

University of Illinois Course Development Grant, 1999.

University of Illinois Research Board Grant, 1999–2000, 2001–2002.

Arnold O. Beckman Research Distinction Grant Award. University of Illinois Research Board. 1998–1999.

#### HONORARY SOCIETIES

John Simon Guggenheim Memorial Foundation Fellow. 2015–2016. Guggenheim Fellows are appointed on the basis of impressive achievement in the past and exceptional promise for future accomplishment.

Elected Fellow. 2018. Society for Political Methodology. Selection to the position of Fellow of the Society for Political Methodology honors individuals who have made outstanding scholarly contributions to the development of political methodology, and whose methodological work has had a major international impact on subsequent scholarship in the field, in the discipline more broadly, and where appropriate in other areas.

## AWARDS AND HONORS

**HPC Innovation Excellence Award** by Hyperion Research at **ISC19**, June 2019, Frankfurt, Germany. The award recognizes outstanding applications of high performance computing (HPC) for business and scientific achievements.

First Place Winner in the 2016 Common Cause “Gerrymander Standard” writing competition for the article, “Toward a Talismanic Redistricting Tool: A Fully Balanced Computational Method for Identifying Extreme Redistricting Plans,” with Yan Y. Liu.

List of Teachers Ranked as Excellent by their Students. University of Illinois at Urbana-Champaign. Multiple Years.

Leon Weaver Award for “Migration and Party Switching in the American Electorate.” Best Paper presented at a panel sponsored by the APSA Representation and Electoral Systems Division in 2010.

Volunteer of the Year, Alzheimer’s Services of the East Bay. 1997.

## FELLOWSHIPS AND APPOINTMENTS

Visiting Fellow. Hoover Institution. Stanford University. 2018–2020.

Fellowship. Center for Advanced Study in the Behavioral Sciences. Stanford University. 2019–2020.

Research Associate. 2014–15. Center for Advanced Study. University of Illinois at Urbana-Champaign. Research appointment to pursue project, “An Extreme-Scale Computational Approach to Redistricting Analysis.”

Merriam Professorial Scholar. 2010–2012. Cline Center for Democracy. University of Illinois at Urbana-Champaign.

Faculty Fellowship. National Center for Supercomputing Applications. University of Illinois at Urbana-Champaign. Summer 2006.

Fellowship, Center for Democracy in a Multiracial Society. University of Illinois at Urbana-Champaign, AY 2004–2005.

## MEMBERSHIP IN PROFESSIONAL SOCIETIES

American Political Science Association (APSA)

Midwest Political Science Association (MPSA)

Institute of Electrical and Electronics Engineers (IEEE)

Association for Computing Machinery Special Interest Group on High Performance Computing (ACM sigHPC)

## BOOK REVIEWS

“Asian American Political Action: Suburban Transformation,” by James S. Lai. *Political Science Quarterly* 127, 1 (Spring 2012): 165–166.

“The Snake Dance of Asian American Activism: Community, Vision, and Power,” by Michael Liu, Kim Geron, and Tracy Lai. *Political Science Quarterly* 125, 2 (Summer 2010): 326–329.

“The Election After Reform: Money, Politics, and the Bipartisan Campaign Reform Act,” by Michael Malbin, ed. *Election Law Journal* 6, 1 (January 2007): 100–103.

“Why Americans Split Their Tickets: Campaigns, Competition and Divided Government,” by Barry C. Burden and David C. Kimball. *Party Politics* 10, 2 (January 2004): 241–243.



“Political Participation and Ethnic Minorities: Chinese Overseas in Malaysia, Indonesia, and the U.S.,” by Amy Freedman. *Journal of Social Issues in Southeast Asia* 18, 1 (April 2003): 164–167.

“The Making of Asian America through Political Participation,” by Pei-te Lien. *Perspectives on Politics* 1, 1 (March 2003): 190–191.

“Econometric Foundations,” by Ron C. Mittelhammer, George G. Judge, and Douglas J. Miller. *The Political Methodologist* 10, 2 (Spring 2002): 18–19.

“A Solution to the Ecological Inference Problem: Reconstructing Individual Behavior from Aggregate Data,” by Gary King. *Journal of Politics* 60, 4 (November 1998): 1244–1245.

## BLOGS, POPULAR PRESS, NEWSLETTERS, AND OTHER WRITINGS

“For Partisan Gerrymandering, an Ounce of Prevention is Worth a Pound of Cure.”  
[Election Law Blog](#). July 3, 2019.

“Technology-Enabled Coin Flips for Judging Partisan Gerrymandering.”  
[Election Law Blog](#). May 26, 2019.

“The ‘Everything Bagel’ in Redistricting” (with Yan Liu, Bruce Cain, and Emily Zhang).  
[Election Law Blog](#). May 27, 2018.

“Voter Migration is a Significant Factor in the Geographic Sorting of the American Electorate.”  
[LSE US Centre](#).

“Pay Attention to Asian-American Voters,” with James G. Gimpel.  
*The Politico* 1, 51 (May 2007): 3–4.

“Getting Out the Asian American Vote: The Value in the Unpredictable,” with James G. Gimpel. *Campaigns and Elections* 25, 6 (July 2004): 44–45.

“Open Source Spatial Data Analysis,”  
*The Political Methodologist* 12, 2 (Fall 2004): 13–17.

## INVITATIONS (selected)

Keylitz Lecture. The Fields Institute for Research in Mathematical Sciences. Toronto, Canada. May 2020. Lecturers are selected by a distinguished international committee consisting of both mathematicians and social scientists. The Fields Institute is a leading Canadian research centre, which promotes activities in a broad range of areas relating to the mathematical sciences (mathematics, statistics, computer science) and all of their applications.

Keynote Speaker. Master of Mathematical Finance Symposium: The World Forum on Finance, Technology, Investments & Risk Management. The Blue Mountains, Ontario, Canada. January 2019.

Invited Speaker. Annual Meeting of the Missouri Bar and Judicial Conference. St. Louis, MO. September 2018.

Invited Speaker. *The Inaugural Year Series*. Sarah Lawrence College. Invited by Mathematics Department. Bronxville, NY. April 2018.

Invited Speaker. Mathematics in Science and Society Colloquium. University of Illinois at Urbana-Champaign. Mathematics Department. February 2018.

Invited Speaker. Data Institute SF Conference. Drawing leaders of industry and academia to explore the latest theoretical advances and technological applications in data science in order to promote the next generation of cross-disciplinary research. University of San Francisco. October 2017. Declined.

Invited Speaker. Canadian Industrial and Applied Mathematics Society Annual Meeting. Halifax, Nova Scotia. July 2017. Declined.

Invited Keynote Speaker. GIS Day: A Celebration of of GIS Research and Application across Disciplines. Purdue University. November 2016.

Invited Workshop Presenter. Neural Information Processing Systems (NIPS), a single-track machine learning and computational neuroscience conference, Montréal, Canada. December 2015.

Invited Speaker. Initiative for Mathematical Science and Engineering. Applied Geometry and Topology and Networks, Learning, and Games Conference. University of Illinois at Urbana-Champaign Mathematics Department. February 2014.

Invited Keynote Speaker. November 2010. Political Geography Conference. University of Copenhagen. Denmark.

Invited Distinguished Speaker. 2008. U.S. Army Conference on Applied Statistics. Virginia Military Institute, Lexington, Virginia.

## PROFESSIONAL ACTIVITIES AND SERVICE

### Offices

APSA Executive Council, 2007–09, Governing Board for the American Political Science Association (elected by discipline-wide election)

Member-at-Large, Society for Political Methodology, APSA Section, 2004–2006.

### Editor

*Political Analysis*, 2009–2010, with Robert Franzese and Andrew Martin.

*The Political Methodologist*, 2010–2013, with Jake Bowers and Brian Gaines.

### Associate Editor

*Political Analysis*, 2007–2009.

### Editorial Board Member

*American Journal of Political Science*, 2018–2023.

*American Politics Research*, 2003–2019.

*American Political Science Review*, 2012–2020.

*Journal of Politics*, 2007–2009, 2010–2014.

*Journal of Election Technology and Systems*, 2013–2016.

*Political Analysis*, 2005–2007.

*Political Behavior*, 2019–2023.

*PS: Political Science & Politics*, 2006–2009.

*Ralph Bunche Journal of Public Affairs*, 2008–2012.

*SSRN, Political Methods: Quantitative Methods*, 2007–2010.

*State Politics and Policy Quarterly*, 2004–2014.

### Award Committees

R.H. Durr Award Committee for the best paper applying quantitative methods to a substantive issue. Midwest Political Science Association, 2020.

Heinz Eulau Award Committee to recognize the best article published in the *American Political Science Review* during the previous academic year. 2019.

Political Methodology Career Award Committee to recognize an outstanding career of intellectual accomplishment and service to the profession in the Political Methodology field. 2015–2018.

Best Graduate Student Poster Award Committee for best graduate student poster presented at the Political Methodology Conference in 2014.

Best Paper Award Committee to recognize the best paper published in the *American Politics Research* journal in 2013.

- Emerging Scholar Award Committee for a scholar within ten years of his degree, who is making notable contributions to the field of political methodology, 2011 & 2012.
- Franklin L. Burdette Pi Sigma Alpha Award Committee (Chair) for the best paper presented at the Annual Meeting of the American Political Science Association, 2009.
- R.H. Durr Award Committee for the best paper applying quantitative methods to a substantive issue. Midwest Political Science Association, 2004.
- Harold Gosnell Award Committee for excellence in political methodology awarded for best methodology conference paper, 2004.
- Warren Miller Prize Committee for best article published in *Political Analysis*, 2004.

### **Program Coordinator/Committees**

- Graduate Admissions Committee, Annual Summer Political Methodology Conference. The Society for Political Methodology, University of Toronto, Toronto, Canada. 2020.
- Methodology Section Head, Annual Conference of the Midwest Political Science Association, Chicago, IL, 2016.
- Program Committee, Annual Summer Political Methodology Conference, The Society for Political Methodology, Princeton University, Princeton, NJ. 2011.
- Graduate Admissions Committee, Annual Summer Political Methodology Conference, The Society for Political Methodology, University of Michigan, Ann Arbor, MI. 2008.
- Methodology Section Head, Annual Conference of the Southern Political Science Association, New Orleans, LA, 2007.
- Program Committee, Annual Summer Political Methodology Conference, The Society for Political Methodology, Stanford University, Stanford, CA. 2004.
- Methodology Section Head, Annual Meeting of the Southern Political Science Association New Orleans, LA, 2004.

### **Advisory Boards and Panels**

- Educational Advisory Board. John Simon Guggenheim Foundation. 2019–2023.
- National Science Foundation. Division of Information & Intelligent Systems (IIS). Computer & Information Science & Engineering Program (CISE). BIG DATA Computer and Network Systems Panel. 2018.
- Board of Directors. C&!: Camp for Algorithmic and Mathematical Play. A Computer Science and Mathematics Summer Camp for Children who Love Math. 2017–2020.
- National Science Foundation. Division of Social, Behavioral, and Economic Sciences. Resource Implementations for Data Intensive Research in the Social Behavioral and Economic Sciences Panel (RIDIR), 2017.
- National Science Foundation. Committee of Visitors. NSF Advisory Committee. Methodology, Measurement, and Statistics Program representative for the Social, Behavioral and Economic Sciences Division (SBE). Reviewed and advised programs in SBE to help shape the future direction of the NSF SBE program. 2016.
- Advisory Board. Program for Interdisciplinary and Industrial Internships at Illinois (PI<sub>4</sub>). PI<sub>4</sub> is an NSF funded program to broaden the research background and the future career prospects of mathematics graduate students. 2014–2019.
- Academic Expert to the Presidential Commission on Election Administration. Commission established by President Obama to identify best practices and make recommendations to promote the efficient administration of elections. 2013.
- Advisory Board. Danish Research Council funded project on contextual influences on social and political attitudes. University of Copenhagen and Aarhus University. 2013–2016.
- National Science Foundation. Division of Social, Behavioral, and Economic Sciences and Division of Education and Human Resources. Building Community and Capacity for Data-Intensive Research Panel. 2012.

- National Science Foundation. Division of Social, Behavioral, and Economic Sciences. Methodology, Measurement, and Statistics Panel, 2011–2012.
- National Science Foundation, Division of Information and Intelligent Systems. Human Centered Computing Cluster CAREER Panel. 2010. Declined.
- National Science Foundation. Division of Information and Intelligent Systems. Computing in the Cloud Panel, 2010.
- Review Panel, *Digging into Data*, joint funding initiative of the National Endowment for the Humanities, the National Science Foundation, Canada's Social Sciences and Humanities Research Council, and the UK's Joint Information Systems Committee. 2009. Declined.
- Invited Member of the bipartisan Immigration Policy Roundtable to advise Congress and President Obama on a new immigration policy agenda. 2008–2009. Declined.
- National Science Foundation. Division of Social, Behavioral, and Economic Sciences. Political Science Panel, 2006–2007.
- National Science Foundation. Division of Social and Economic Sciences. Methodology, Measurement, and Statistics Program. Mathematical, Social, and Behavioral Sciences Panel, 2004.

### Outreach

- Founder, Teacher, and Organizer. Champaign-Urbana Math Circle. Weekly educational mathematics enrichment and outreach program open to children and adults of all ages. 2013–
- Coach. MATHCOUNTS Team. Nationwide Middle School Math Program. 2016–2018. First Place Team in Northern California East Bay Regional Competition. 2017.
- Invited Faculty. C&!: Camp for Algorithmic and Mathematical Play. Summer 2018; Summer 2019. A Computer Science and Mathematics Summer Camp for Children who Love Math. University of New Mexico. Albuquerque, NM.
- Founding Faculty. C&!: Camp for Algorithmic and Mathematical Play. Summer 2017. A Computer Science and Mathematics Summer Camp for Children who Love Math. University of Arkansas. Fayetteville, AR.
- Invited Faculty. Epsilon Camp. Summer 2016. A Mathematics Summer Program for 7 to 11 year olds who are captivated by math. Washington University. St. Louis, MO.
- Invited Faculty. AwesomeMath Camp. Summer 2015. A three-week intensive summer camp for mathematically gifted students from around the globe. Cornell University. Ithaca, NY. Declined.
- Invited Faculty. Delta Camp. Summer 2015. A Mathematics Summer Program for 6.5 to 8 year olds who are lit up by math. Washington University. St. Louis, MO.
- Invited Faculty. Delta Camp. Summer 2014. A Mathematics Summer Program for 6 and 7 year olds with extremely high IQs. Seattle Pacific University. Seattle, WA.
- Invited Faculty. Epsilon Camp. Summer 2012. A Mathematics Summer Camp for Exceptionally and Profoundly Gifted Children. Colorado College. Colorado Springs, CO.
- Instructor. University Laboratory High School Summer Program. 2011. Taught "Math, Sports, Puzzles, and Games." Urbana, IL.

### University Committees (selected)

- CRESS/ATLAS Advisory Committee (College Committee), 2002.
- Council on General Education (College Committee), 2008–2009.
- Committee on Admissions and Academic Standards (College Committee), 2010–2011.
- Campus Research Board (2014–2017).

### Discipline Committees (selected)

- Long Range Planning Committee. Society for Political Methodology. 2017–2019.

Diversity Committee. Society for Political Methodology. 2008–2016.  
 APSA Council Finance Committee 2009.  
 MPSA Nominations Committee, 2010.  
 Co-Chair, APSA Committee on the Status of Asian Pacific Americans in the Profession, 2011–2014.  
 APSA Minority Fellowship Selection Committee, 2011–2013.

### Promotion and Tenure Reviews

Columbia University	Tsinghua University (Beijing, China)
Cornell University	University at Buffalo
Georgetown University	University of California at Berkeley
Harvard University	University of California at Irvine
National Research University, Higher School of Economics (Moscow, Russia)	University of Illinois at Urbana-Champaign
Scripps College	University of Michigan
Stanford University	University of Massachusetts Amherst
Pennsylvania State University	University of Missouri at Columbia
Princeton University	University of North Texas
	Yale University

### Invited Talks

Awesome Math Summer Camp	Libraries and School of Information Studies
Blue Waters Symposium	Rochester University
Brown University	Sarah Lawrence College
Calvin College	Sandia National Laboratories
College of William and Mary Law School	Santa Fe Institute
Colorado College	Seattle Pacific University
Columbia University	Stanford University
Institute for Social and Economic Research and Policy	Toulouse School of Economics, France
Political Science Department	University of California at Berkeley
Dartmouth University	University of California at Davis
Duke University	University of California at Los Angeles Institute for Pure and Applied Mathematics
Florida State University	University of California at Santa Barbara
Georgetown University	University of Chicago Political Science Department
Illinois State Legislature	Law School
Man Group (Quantitative Investment Management)	University of Copenhagen, Denmark
Missouri Bar Association	University of Illinois at Urbana-Champaign Center for Advanced Study
Massachusetts Institute of Technology	Coordinated Science Laboratory
Northwestern University	Graduate Society of Women Engineers
Political Science Department	Law School
Statistics Department	National Center for Supercomputing Applications
Pennsylvania State University	Mathematics Department
Pontificia Universidad Católica de Chile	Political Science Department
Princeton University	Psychology Department
Proof School	Science Policy Group
Purdue University	Statistics Department
Political Science Department	Tufts University
Statistics Department	University of Michigan

University of Pennsylvania	Virginia Military Institute
University of Rochester	University of San Francisco
University of Toronto	Mathematics Department
Fields Institute for Research in Mathematical Sciences	Analytics/Data Science Program
University of Washington	Washington University St. Louis
University of Wisconsin, Madison	Yale University

**Reviewer (for over 100 different academic journals, agencies, foundations, or presses)**

<i>Advances in Statistical Analysis</i>	<i>Journal of the Operational Research Society</i>
<i>American Journal of Political Science</i>	<i>Journal of Political Marketing</i>
<i>American Political Science Review</i>	<i>Journal of Politics</i>
<i>American Politics Research</i>	<i>Journal of Race, Ethnicity, and Politics</i>
<i>Annals of the American Association of Geographers</i>	<i>Journal of the Royal Society Interface</i>
<i>Applied Geography</i>	<i>Journal of the Royal Statistical Society</i>
<i>Automation in Construction</i>	<i>Journal of Statistical Software</i>
<i>British Journal of Political Science</i>	<i>Journal of Theoretical Politics</i>
<i>California Journal of Politics and Policy</i>	<i>Journal of Women, Politics, and Policy</i>
<i>Communications in Statistics</i>	<i>Law &amp; Policy</i>
<i>Communication Research</i>	<i>Legislative Studies Quarterly</i>
<i>Comparative Political Studies</i>	<i>Midsouth Political Science Review</i>
<i>Computer Methods and Programs in Biomedicine</i>	<i>Nature: International Journal of Science</i>
<i>Computers and Geosciences</i>	<i>Nonprofit and Voluntary Sector Quarterly</i>
<i>DuBois Review</i>	<i>Open Statistics and Probability Journal</i>
<i>Election Law Journal</i>	<i>Papers of Applied Geography Conferences</i>
<i>Electoral Studies</i>	<i>Party Politics</i>
<i>Entropy</i>	<i>Perspectives on Politics</i>
<i>Ethnic and Racial Studies</i>	<i>PLOS ONE</i>
<i>European Journal of Operational Research</i>	<i>Political Analysis</i>
<i>Geographical Analysis</i>	<i>Political Behavior</i>
<i>GeoJournal</i>	<i>Political Opinion Quarterly</i>
<i>Historical Methods</i>	<i>Political Research Quarterly</i>
<i>International Interactions</i>	<i>Political Science Research and Methods</i>
<i>International Journal of Forecasting</i>	<i>Politics &amp; Gender</i>
<i>International Journal of Atomic and Nuclear Physics</i>	<i>Politics, Groups, and Identities</i>
<i>International Journal of Public Opinion Research</i>	<i>Population Research and Policy Review</i>
<i>International Organizations</i>	<i>The Professional Geographer</i>
<i>International Regional Science Review</i>	<i>PS: Political Science &amp; Politics</i>
<i>International Review of Administrative Sciences</i>	<i>Public Choice</i>
<i>Journal of East Asian Studies</i>	<i>Quarterly Journal of Political Science</i>
<i>Journal of Applied Statistics</i>	<i>Research &amp; Politics</i>
<i>Journal of the Association for Information Science and Technology</i>	<i>Review of International Organizations</i>
<i>Journal of Computational and Graphical Statistics</i>	<i>Scientific Reports</i>
<i>Journal of Geographical Systems</i>	<i>Social Forces</i>
<i>Journal of International Students</i>	<i>Social Networks</i>
<i>Journal of Mathematical and Statistical Analysis</i>	<i>Social Problems</i>
<i>Journal of Mathematical Psychology</i>	<i>Social Science Research</i>
	<i>Social Science Quarterly</i>
	<i>Sociological Methodology</i>
	<i>Sociological Methods and Research</i>
	<i>Swarm and Evolutionary Computation</i>

*TEST: An Official Journal of the Spanish Society  
of Statistics and Operations*

*Theoretical Economics Letters*

*Urban Affairs Review*

*World Politics*

Cambridge University Press

Chapman & Hall/CRC

Houghton Mifflin

Illinois Community Informatics Initiative

Israel Science Foundation

John D. and Catherine T. MacArthur Foundation

National Science Foundation

Committee of Visitors

Division of Education and Human Resources

Division of Information & Intelligent Systems

Division of Social, Behavioral, and Economic Sciences

National Center for Supercomputing Applications

Faculty Fellows Program

Oxford University Press

Peter Lang Publishing

Polity Press

Rowman & Littlefield Publishers

Russell Sage Foundation

SAGE Publishing

Time-Sharing Experiments for the Social Sciences

University of Illinois Research Board

Wiener Wissenschafts-, Forschungs- und  
Technologiefonds