

VITA
PHILIP ANDREW SCHRODT
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Permanent Address:

703 Wilder Dr.
Charlottesville, VA 22901-3918
phone: 785-550-3553
email: schrodt735@gmail.com

ORCID: 0000-0003-3495-4198
GitHub: philip-schrodt
Skype: philschrodt
home page: <http://philipschrodt.org>

I. Education:

Ph.D. Political Science, Indiana University, 1977
M.A. Mathematics, Indiana University, 1974
B.A. Political Science and Mathematics, Indiana University 1971

II. Areas of Specialization

Methodology

Natural Language Processing, Computational Modeling and Machine Learning, Time Series Analysis, Mathematical Statistics.

International Relations

International Conflict and Crisis Forecasting, Middle East Politics.

III. Professional Experience

Senior Research Scientist, Parus Analytics LLC, July 2013 - present
Professor, Political Science, Pennsylvania State University, 2010-2013
Professor, Political Science, University of Kansas, 1991-2009
Associate Professor, Political Science, University of Kansas, 1988-1991
Associate Professor, Political Science, Northwestern University, 1982-1988
Assistant Professor, Political Science, Northwestern University, 1976-1982

Visiting Positions:

Peace Research Institute, Oslo, Spring 2012
Bir Zeit University, West Bank, Spring 1996
American University in Cairo, Summer 1993
University of California at Davis, Winter-Spring, 1982
U.S. Naval Postgraduate School, Summer 1979, Summer 1982
Richardson Institute for Peace and Conflict Studies, University of Lancaster, 1979-80
Graduate Research Assistant, Center for International Policy Studies, Indiana University, 1974-76
Associate Instructor, Mathematics and Computer Science, Indiana University, 1970-1973

IV. Research Skills

Languages: Arabic (basic speaking, reading); French (good speaking, reading); Norwegian (basic reading); Spanish (basic reading)

Mathematics: graduate-level mathematical statistics, nonparametric statistics, analysis of variance, econometrics, and mathematical modeling

Computer: C/C++, Python, Perl, Java, Pascal, Fortran, assembly. Extensive programming experience, including parallel computer, Macintosh, and Unix systems. R and Stata statistical programming. Django web framework development.

V. Parus Analytics Consulting

“RIDIR: Modernizing Political Event Data for Big Data Social Science Research.” (PI: Patrick Brandt, University of Texas at Dallas). National Science Foundation SES-1539302. 2015-2018. [440 hours]

“A Near-Real Time Semi-Automated System for Measuring Territorial Control in Civil Conflicts” (PI: James Walsh, University of North Carolina at Charlotte). Department of Defense Minerva. 2016. [120 hours]

“A Method for Leveraging Public Information Sources for Social Science Research.” (PI: Thomas Carsey, University of North Carolina at Chapel Hill). National Science Foundation SMA-1338470 and SES-1259266. 2013-2015. [500 hours]

“Good Judgment Project” (PI: Philip Tetlock and Barbara Mellers, University of Pennsylvania). Aggregative Contingent Estimation (ACE), Intelligence Advanced Research Projects Agency [200 hours]

“Data Collection and Statistical Analytics.” Leidos/Political Instability Task Force. 2013-present [on-going]

“Political Monitoring of Palestine.” (with Deborah J. Gerner) Swiss Peace Foundation FAST Project. 2002-2004. \$34,000.

“Cluster Analysis and Hidden Markov Modeling for the Forecasting of Political Instability.” Joint Warfare Analysis Center, U.S. Department of Defense. 2000. \$86,241

“Translation of KEDS Program to Unix/C Environment”, Scientific Applications International Corporation/State Failures Project. 1999-2000. \$61,132.

VI. Academic External Grants and Fellowships

“Collaborative Research: Automated Real-Time Production of Political Indicators.” (with Michael Ward, Duke University and Jay Ulfelder). National Science Foundation SES-1259190 and SES-1259266. 2013-2014. \$400,000

Fulbright Research Grant, Peace Research Institute, Oslo, Norway. Spring, 2012.

“Collaborative Research: Development of a Technology for Real Time Ex Ante Forecasting of Intra and International Conflict and Cooperation.” (with John Freeman, University of Minnesota and Patrick Brandt, University of Texas, Dallas). National Science Foundation SES-0921027 and SES-1004414. 2010-2012. \$188,330

- “EAGER: The Creation and Classroom Application of a Web Portal for Social Science Methods Education” (with William Anderson, University of South Dakota, Michelle Dion, McMaster University, Janet Box-Steffensmeier, Ohio State University and William Jacoby, University of Michigan. National Science Foundation SES-0968723. 2010-2011. \$207,863
- “MID4: Updating the Militarized Dispute Data Set 2002-2010.” (with Glenn Palmer and Scott Bennett, Pennsylvania State University). National Science Foundation SES-0924240. 2010-2011. \$316,140.
- “Competitive Development of Applied Political Forecasting Models.” Integrated Crisis Early Warning System (ICEWS) initiative, U.S. Department of Defense Advanced Research Projects Agency. 2007-2011. \$840,826
- “Support for Conferences and Mentoring Activities in Political Science.” (with Janet Box-Steffensmeier, Ohio State University). National Science Foundation SES-0720343. 2008-2010. \$245,388.
- “Data Collection on Mass Killings of Non-combatants.” Scientific Applications International Corporation/Political Instability Task Force. 2003-2010 (Kansas): \$490,425. 2012-2013 (Penn State): \$114,404
- “Improving the Efficiency of Militarized Interstate Dispute Data Collection using Automated Textual Analysis.” (with Scott Bennett and Glenn Palmer, Pennsylvania State University, and Paul Diehl, University of Illinois). National Science Foundation. SES-0719634, 2007-2009. \$30,700
- “Collaborative Research: The Dissent/Repression Nexus in the Middle East.” (with Christian Davenport, Deborah J. Gerner, Craig Jenkins, Katherine Myers, Jillian Schwedler, and Mary Ann Tetreault). National Science Foundation Human and Social Dynamics Initiative SES-0527564. 2005-2008. \$173,995.
- “Collaborative Research: Computational Methods for the Analysis of Political Event Data.” (with Valerie Hudson, Brigham Young University). National Science Foundation SES-0455158. 2005-2006. \$76,926. URL: <http://www.nkss.org/>
- “Automated Coding of Event Data for Forecasting Genocide and Mass Killings”, Scientific Applications International Corporation/Political Instability Task Force. 2003-2005. \$149,123.
- Fulbright Lecturing Grant, Bir Zeit University, West Bank. 2002-2003. (formally awarded but indefinitely delayed by U.S. State Department due to political instability in region).
- “Analyzing the Dynamics of International Mediation Processes.” (with Deborah J. Gerner) National Science Foundation SES-0096086. 2001-2003. \$126,875.
“Research Experience for Undergraduates” supplement, \$21,216
- Fulbright Lecturing Grant, Bir Zeit University, West Bank. 1996. \$36,820.
- “Development of Machine-Coded Event Data Techniques for the Analysis of Political Behavior.” (with Deborah J. Gerner) National Science Foundation SES-9410023. 1994-1996. \$70,000.

- “Generating Events Data using Machine-Assisted Coding and Regional News Sources.” (with Ronald Francisco and Deborah J. Gerner) National Science Foundation (subcontract from Data Development in International Relations project). 1991-1993. \$39,000.
- “Short Term Prediction of International Events using Pattern Recognition.” National Science Foundation award 8910738. 1989-1991. \$56,000.
- “Institutional Fellowship Grant: Borders and International Cooperation in Africa.” (with Caroline Bledsoe) John D. and Catherine T. MacArthur Foundation. 1988. \$797,000
- “Conference on Artificial Intelligence and Psychological Approaches to Foreign Policy Decision Making.” (with Charles Hermann and Margaret Hermann) Midwest Consortium for International Security Studies. 1987. \$20,000
- “A Computer Laboratory for Undergraduate Study in Political Science.” (with Kenneth Janda) National Science Foundation Instructional Scientific Equipment Program. 1981-1982 \$24,900
- “Collaborative Research in the Study of N-Nation International Interactions.” (with Dina A. Zinnes) National Science Foundation award 8025053. 1982-83. \$58,000
- “Development of a Freshman-Sophomore Course in Mathematical Models in the Social Sciences.” (with Carole J. Uhlener) Mellon Foundation. 1979. \$12,500
- “The Effects of Major Power Arms Transfers on International Behavior in the Arabian Sea Area.” NATO/NSF Postdoctoral Fellowship. 1979-80. \$14,500

VII. Publications and Professional Papers

Project Web Sites

Open Event Data Alliance: <https://github.com/openeventdata>

CIVET software: <https://github.com/civet-software>

Computational Event Data System:

Papers: <http://eventdata.parusanalytics.com/papers.html>

Software: <http://eventdata.parusanalytics.com/software.html>

Data Sets: <http://eventdata.parusanalytics.com/data.html>

Presentations: <http://eventdata.parusanalytics.com/presentations.html>

Books and Monographs

Political Analysis 16,4 (2008). Special issue on “The Statistical Analysis of Political Text.” (edited, with Burt Monroe)

Microcomputer Methods in the Social Sciences. Beverly Hills, CA: Sage Publications, 1984, 1987. (Spanish edition: *El Microordenador en las Ciencias Sociales*. Barcelona: Editorial Crítica, 1987)

Crosstabs: Student Workbook for American Government. Boston: Houghton Mifflin, 1987, 1989 (with Kenneth Janda)

International Interactions 10,1 (1983). Special issue on "Quantitative Studies of Arms Transfers." (edited, with Ronald J. Sherwin)

Preserving Arms Distributions in a Multi-Polar World. University of Denver Monograph Series in World Affairs, 18,4 (1982)

Refereed Articles

- "Generating Political Event Data in Near Real Time: Opportunities and Challenges." Forthcoming in Michael Alvarez, ed. *Computational Social Science: Discovery and Prediction* (Cambridge: Cambridge University Press) (with John Beiler, Patrick Brandt, Andrew Halterman and Erin Simpson)
- "Evaluating forecasts of political conflict dynamics." *International Journal of Forecasting* 30, 4: 944-962 (July 2014) (with Patrick T. Brandt and John R. Freeman)
- "Separating the Wheat from the Chaff: Applications of Automated Document Classification Using Support Vector Machines." *Political Analysis* 22,2: 224-242 (Spring 2014). (with Vito D'Orazio, Steven Landis and Glenn Palmer).
- "Seven Deadly Sins of Contemporary Quantitative Analysis." *Journal of Peace Research*. 51,2: 287-300 (March 2014)
- "Precedents, Progress and Prospects in Political Event Data." *International Interactions* 38,4: (August 2012).
- "Real time, time series forecasting of inter- and intra-state political conflict." *Conflict Management and Peace Science* 28: 41-64 (February 2011). (with Patrick T. Brandt and John R. Freeman)
- "Discrete Sequence Rule Models as a Social Science Methodology: An Exploratory Analysis of Foreign Policy Rule Enactment Within Palestinian-Israeli Event Data." *Foreign Policy Analysis* 4,2: 105-126 (April, 2008). (with Valerie M. Hudson and Ray D. Whitmer)
- "Comment on King and Zeng, 'When Can History be Our Guide? The Pitfalls of Counterfactual Inference'" *International Studies Quarterly* 51,1 (March 2007) pp. 211-216
- "Forecasting Conflict in the Balkans using Hidden Markov Models." Pp. 161-184 in Robert Trapp, ed. *Programming for Peace: Computer-Aided Methods for International Conflict Resolution and Prevention*. Dordrecht, Netherlands: Kluwer Academic Publishers, 2006
- "An Event Data Analysis of Third-Party Mediation." *Journal of Conflict Resolution* 48,3: 310-330 (June 2004) (with Deborah J. Gerner)
- Reprinted in Daniel Druckman and Paul Diehl, eds. 2006. *Conflict Resolution*. Sage Publications.
- "Taking Your Academic Expertise Public: Lessons Learned from Responding to the 11 September Crisis." *International Studies Perspectives* 3,2: 221-229. (Spring, 2002) (with Deborah J. Gerner)
- Reprinted in *Contemporary Essays in Peace Studies in Honor of Anthony Bing*, ed. Caroline Higgins. Richmond IN: Earlham College Press, 2004.

- “Cluster-Based Early Warning Indicators for Political Change in the Contemporary Levant.” *American Political Science Review* 94,4: 803-818 (December 2000) (with Deborah J. Gerner)
- “Pattern Recognition of International Crises using Hidden Markov Models.” pp. 296-328 in Diana Richards (ed.) *Political Complexity: Nonlinear Models of Politics*. Ann Arbor: University of Michigan Press, 2000.
- “Into the New Millennium: Challenges Facing Palestinian Higher Education in the Twenty-First Century.” *Arab Studies Quarterly* 21,4:17-33 (1999). (with Deborah J. Gerner)
- “Empirical Indicators of Crisis Phase in the Middle East, 1979-1995.” *Journal of Conflict Resolution* 41,4: 529-552 (1997) (with Deborah J. Gerner)
- “Validity Assessment of a Machine-Coded Event Data Set for the Middle East, 1982-1992.” *American Journal of Political Science* 38:825-854. (1994) (with Deborah J. Gerner)
- “The Analysis of Political Events using Machine Coded Data.” *International Studies Quarterly* 38:91-119. (1994) (with Deborah J. Gerner, Ronald Francisco and Judith L. Weddle)
- “Political Science: KEDS—A Program for the Machine Coding of Event Data.” *Social Science Computer Review* 12,3: 561-588 (Fall, 1994). (with Shannon G. Davis and Judith L. Weddle)
- “Statistical Characteristics of Events Data.” *International Interactions* 20,1-2: 35-53 (1994)
- “Prediction of International Conflict using a Neural Network.” *Social Science Computer Review* 9,4: 359-380 (1991).
- “Predicting Interstate Conflict Outcomes using a Bootstrapped ID3 Algorithm.” *Political Analysis* 2. Ann Arbor: University of Michigan Press, 1991, pp 31-56.
- “A Methodological Critique of a Test of the Effects of the Maharishi Technology of the Unified Field.” *Journal of Conflict Resolution* 34,4: 745-755 (1990)
- “Parallel Event Sequences in International Crises, 1835-1940.” *Political Behavior* 12,2:97-123 (1990)
- “Short Term Prediction of International Events using a Holland Classifier.” *Mathematical and Computer Modeling* 12: 589-600 (1989)
- “Artificial Intelligence Models of International Behavior.” *The American Sociologist* 19,1: 71-85. (1988). Reprinted in Grant Blank, James L. McCartney and Edward Brent, eds. *New Technology and the Nature of Sociological Work*. New York: Transaction Press, 1989.
- “PWORLD: A Precedent-Based Global Simulation.” *Social Science Computer Review* 6,1: 27-42 (1988)
- “A Conditional Probability Analysis of Regional Interactions in the Middle East.” *American Journal of Political Science*. 32,1: 217-230 (1988) (with Alex Mintz)
- “Arms Transfers and International Behavior in the Arabian Sea Area.” *International Interactions* 10,1 (1983)

- “A Statistical Study of the Cube Law in Five Electoral Systems.” *Political Methodology* 7,2: 31-53 (1982)
- “Statistical Inference in Incremental and Difference Equation Formulations.” *American Journal of Political Science* 25,4: 815-832 (1981) (with Michael Ward).
- “Statistical Problems Associated with the Richardson Arms Race Model.” *Journal of Peace Science* 3,2: 159-172 (1978)
- “A New Test of the Cube Law.” *Political Methodology*, 4,4: 353-367 (1977) (with William Linehan)
- “Parameter Estimation by Numerical Minimization Methods.” *International Interactions* 4,3: 279-301 (1978) (with John V. Gillespie and Dina A. Zinnes)
- “Size, Competitiveness and the Probability of Influencing an Election.” *Political Methodology* 10,3 (1983) (with William Linehan)
- “A Mathematical Model of the Persistence of International Conflict.” *International Interactions* 8,2: 335-348 (1981)
- “Conflict as a Determinant of Territory.” *Behavioral Science* 26,1: 37-50 (1981)
- “Richardson's N-Nation Model and the Balance of Power.” *American Journal of Political Science*, 22,2: 364-390 (1978)
- “Deterrence and Arms Races: An Optimal Control Model.” *Behavioral Science*.24,3: 250-262 (1979) (with Dina A. Zinnes, John V. Gillespie, G.S. Tahim, Martin Sampson and R.M. Rubison)
- “The Arab-Israeli Arms Race: An Empirical Examination.” *Jerusalem Journal of International Relations* 2,1:28-62 (1976) (with Dina A. Zinnes and John V. Gillespie)
- “An Optimal Control Model of Arms Races.” *American Political Science Review*, 71,1: 226-244 (1977) (with John V. Gillespie, Dina A. Zinnes, G.S. Tahim and R.M. Rubison)
- Other Articles**
- “Event Type, Sub-state Actor and Temporal Dimensions of the Dissent-Repression Relationship: Evidence from the Middle East.” pp.9-31 in Harvey Starr and Stanley Dubinsky, eds. *The Israeli Conflict System: Analytic Approaches*, (London: Routledge, 2015). (with Ömür Yilmaz)
- “A Guide to Event Data: Past, Present and Future.” *All Azimuth* 2,2: 5-22. (July 2013) (with Jay Yonamine)
- “Data-based Computational Approaches to Forecasting Political Violence.” pp. 129-162 in V.S. Subrahmanian. *Handbook of Computational Approaches to Counterterrorism*. Springer, 2013. (with James Yonamine and Benjamin Bagozzi)
- “Automated Coding of Political Event Data.” pp. 23-50 in V.S. Subrahmanian. *Handbook of Computational Approaches to Counterterrorism*. Springer, 2013. (with David Van Brackle)

- “Prediction/Forecasting.” *Sage International Encyclopedia of Political Science*. 2011.
- “Editors’ Introduction: The Statistical Analysis of Political Text.” *Political Analysis* 16,4 (2008). (with Burt Monroe)
- “Conflict and Mediation Event Observations (CAMEO): An Event Data Framework for a Post Cold War World.” Jacob Bercovitch and Scott Gartner. *International Conflict Mediation: New Approaches and Findings*. New York: Routledge. (2008) (with Deborah J. Gerner and Ömür Yilmaz)
- “Beyond the Linear Frequentist Orthodoxy.” *Political Analysis* 14,3 (Summer 2006) pp. 335-339.
- “Twenty Years of the Kansas Event Data System Project.” *The Political Methodologist* 14,1 (Spring, 2006) pp. 2-8.
- “Methods Meet Policy: Transnational Monitoring of the Israel–Palestine Conflict.” *International Studies Perspectives* 6,2:235-251 (2005) (with Deborah J. Gerner and Ömür Yilmaz)
- “Detecting United States Mediation Styles in the Middle East, 1979-1998.” Pp. 99-124, in Zeev Maoz, Alex Mintz, T. Clifton Morgan, Glenn Palmer and Richard J. Stoll, eds. 2004. *Multiple Paths to Knowledge in International Relations*. Lexington, MA: Lexington Books.
- Articles on “Computer Simulation”, “Deterministic Model”, and “Random Numbers” in Michael Lewis-Beck, Alan Bryman, and Tim Futing Liao. 2004. *Encyclopedia of Social Science Research Methods*. Thousand Oaks, CA: Sage Publications.
- “Barbarians at the Gate: A Political Methodologist’s Notes on using the National Center for Supercomputer Applications.” *The Political Methodologist* 10,1 (Fall, 2001) pp. 28-32.
- “Early Warning of Conflict in Southern Lebanon using Hidden Markov Models.” Pp. 131-162 in Harvey Starr, ed. *The Understanding and Management of Global Violence: New Approaches to Theory and Research on Protracted Conflict*. New York: St. Martin’s Press, 1999.
- “Politics in the Middle East.” 2000. in Jillian Schwedler and Deborah J. Gerner, eds. *Understanding the Contemporary Middle East*. Boulder, CO: Lynne Rienner Publications. (with Deborah J. Gerner)
Third edition: 2008. Fourth edition: 2013.
- “The Effects of Media Coverage on Crisis Assessment and Early Warning in the Middle East.” in Schmeidl, Susanne and Howard Adelman, eds. 1998. *Early Warning and Early Response*. New York: Columbia University Press-Columbia International Affairs Online. (with Deborah J. Gerner)
- “Cluster Analysis as an Early Warning Technique for the Middle East.” pp. 95-107 in John L. Davies and Ted Robert Gurr. 1998. *Preventive Measures: Building Risk Assessment and Crisis Early Warning Systems*. Lanham, MD: Rowman and Littlefield. (with Deborah J. Gerner).

- “Environmental Change and Conflict: Analyzing the Ethiopian Famine of 1984-85.” pp. 147-158 in Carl W. Roberts, ed. *Text Analysis for the Social Sciences: Methods for Drawing Statistical Inferences from Texts and Transcripts*. Hillsdale, NJ: Lawrence Erlbaum Associates: 1997. (with Scott Savaiano)
- “An Early Warning System for the United Nations: Internet or Not?” *Mershon International Studies Review*. 39,2: 315-326 (October,1995) (with Gavan Duffy, Ted Robert Gurr, Gottfried Mayer-Kress and Peter Brecke)
- “Event Data in Foreign Policy Analysis.” in Laura Neack, Jeanne A.K. Hey and Patrick J. Haney. *Foreign Policy Analysis: Continuity and Change*. New York: Prentice-Hall, 1994: 145-166.
- “The Machine Coding of Events Data.” in Richard L. Merritt, Robert G. Muncaster and Dina A. Zinnes, eds. *International Events-Data Developments: DDIR Phase II*. Ann Arbor: University of Michigan Press, 1993.
- “Event Data Research in International Relations.” in Vladimir O. Rukavishnikov, ed. *Political Analysis Method, Theory and Practice*. Moscow: Institute of Sociopolitical Research, Academy of Sciences of the Russian Federation, 1993.
- “Meso-Level Regimes and Robust Plans.” in Marian Rice, Joel Snow and Harold Jacobson (eds). *Global Climate Change: Social and Economic Research Issues*. Argonne, IL: Argonne National Laboratory, 1992, pp. 86-93.
- “History and Culture in the Teaching of World Politics.” in Lev S. Gonick and Edward Weisband. *Teaching World Politics: Contending Pedagogies for a New World Order*. Boulder, CO: Westview Press, 1992. pp. 63-82 (with Deborah J. Gerner)
- “Political Science Analytical Theory and Methodology: An Assessment.” in William Crotty (ed.) *Political Science: An Assessment*. Evanston, IL: Northwestern University Press. (1991) pp 99-164 (with Paul E. Johnson)
- “Pattern Recognition in International Event Sequences: A Machine Learning Approach.” in Valerie M. Hudson, ed. *Artificial Intelligence and International Politics*. Boulder: Westview Press, 1991. pp 169-193.
- “The Development of Artificial Intelligence of International Politics.” in Valerie M. Hudson, ed. *Artificial Intelligence and International Politics*. Boulder: Westview Press, 1991. pp 9-31.
- “Mathematical Modeling.” Chapter in Jarol B. Mannheim and Richard C. Rich. *Empirical Political Analysis*. (2nd edition). Englewood Cliffs: Prentice-Hall, 1986. Third edition: 1990, Fourth edition: 1994, Fifth edition: 2001
- “Borders and Alliance Effects in the Diffusion of Major Power Conflict, 1816-1965.” in Charles Gochman and Alan Ned Saborsky, eds. *Prisoners of War?: Nation-States in the Modern Era*. New York: D.C. Heath, 1990. (with Benjamin Most, Harvey Starr and Randolph Siverson)
- “Distributional Patterns of Regional Interactions in the Middle East and Europe.” in Claudio Cioffi-Revilla, Richard L. Merritt and Dina Zinnes, eds. *Interaction and Communication in the Global Arena*. Beverly Hills: Sage, 1987. (with Alex Mintz)

- “Event Bases, Pattern Recognition and Foreign Policy Decision-Making.” in Stephen Cimbala, ed. *Artificial Intelligence and National Security*. Lexington, MA: Lexington Books, 1987.
- “Predicting International Events.” *Byte* 11,11 (November, 1986)
- “Precedent-Based Logic and Rational Choice: A Comparison.” in Michael Ward and Urs Luterbacher, eds. *Dynamic Models of International Conflict*. Boulder, CO: Lynn Rienner Publishing, 1985. pp. 373-400.
- “Stochastic Models in International Relations Research.” in Michael Ward, ed. *Theories, Models and Simulation in International Relations*. Boulder, CO: Westview, 1985. pp. 199-221.
- “The Simulation of Weighted Voting: The Banzhaf Index.” *Byte* 9:4: 138-147 (1984)
- “The Lagged Logistic Equation as a Model of Sporadic Conflict.”, in Dina A. Zinnes, ed. *Conflict Processes and the Breakdown of International Systems*. Merriam Seminar Series on Research Frontiers, University of Denver Monograph Series in World Affairs 20,2 (1983)
- “The Use of Microcomputers in Statistical Analysis.” *News for Teachers of Political Science*, Summer, 1983.
- “Microcomputers in the Study of Politics: The Richardson Model.” *Byte* July, 1982: 108-134.
- “Sensitivity Analysis of an Armaments Race.” in Patrick J. McGowan and Charles W. Kegley, eds. *Threats, Weapons and Foreign Policy*, Beverly Hills, CA: Sage Publications, pp. 275-310 (with John V. Gillespie, Dina A. Zinnes and G.S. Tahim)
- “Arms and Aid: A Differential Game Analysis.” in W. Ladd Hollist, ed. *Exploring Competitive Arms Processes*. New York: Marcel Dekker, 1978. pp. 17-38 (with John V. Gillespie, Dina A. Zinnes, G.S. Tahim and R.M. Rubison)
- “Appendix: Mathematical Methods in International Relations Models.” in Dina A. Zinnes, *Contemporary Research in International Relations*. New York: Free Press, 1976.
- “Mathematical Models of Arms Races.” in Daniel P. Maki and Maynard Thompson, eds. *Mathematical Models in the Undergraduate Curriculum*. Bloomington, IN: Indiana University Publications, 1976. pp. 166-190.
- “Richardson's Model as a Markov Process.” in John V. Gillespie and Dina A. Zinnes, eds. *Mathematical Models in International Relations*. New York: Praeger, 1976. pp. 156-175.

Computer Programs

- CIVET. Contentious Incident Variable Entry Template. User-friendly system for developing text intensive web-based data entry forms. 2015. <https://github.com/civet-software>.
- PETRARCH. Python open-source software for event data coding using Treebank parsed input. 2013-2014. <https://github.com/openeventdata/petrarch>.
- TABARI. Textual Analysis by Augmented Replacement Instructions. C++, open-source software for event data coding. 2000-2012. <http://eventdata.parusanalytics.com/software.dir/tabari.html>

KEDS. Kansas Events Data System: automated event data coding. Data Development in International Relations project. 1991-1994
 "Best Research Software Award", American Political Science Association Computers and Multimedia Section, 1995.

CROSSTABS/Make_XTABS_Data. Screen-oriented cross-tabulation system. Houghton-Mifflin. 1987. Second edition: 1989.
 Winner of "Distinguished Software" award in EDUCOM/NCRIPTAL Higher Education Software Competition, 1987.
 "Outstanding Political Science Computer Software Award", American Political Science Association Computer Users Section, 1990.

Book Reviews

Daniel Wirls. Irrational Security: The Politics of Defense from Reagan to Obama. *Political Science Quarterly* 126,3: 517-518 (Fall, 2011).

Abdulkader H. Sinno. Organizations at War in Afghanistan and Beyond. *International Journal of Middle East Studies* 42,4: 709-711 (November, 2010).

Peter Turchin. Historical Dynamics: Why States Rise and Fall. *Contemporary Sociology* 34,2: 213-215 (January 2005).

D. Scott Bennett and Allan C. Stam. The Behavioral Origins of War. *Perspectives on Politics*. 2,4: 886-887 (December 2004).

Gerald Schneider, Kathrine Barberi, and Nils Petter Gleditsch. Globalization and Armed Conflict. *International Studies Review*. vol. 6: 292-294 (2004).

Donald J. Puchala (ed). Visions of International Relations. *Journal of Politics* 65:263-264 (February 2003).

Charles C. Ragin. Fuzzy-Set Social Science. *American Political Science Review* 96,2: 452-453. (June 2002).

"Major Power Cooperation Amid Conflict." *Mershon International Studies Review*, vol 40, supplement 1 (April 1996).

Thomas R. Cusack and Richard J. Stoll. Exploring Realpolitik. *American Political Science Review* 86,4:1101-1102 (1992).

Yaacov Vertzberger. The World in Their Minds. *American Political Science Review* 85,4:1502-1503. (1991).

Joshua Goldstein and John Freeman. Three-Way Street. *Journal of Politics* 53,4:1221-1223. (1991)

Thomas Schwartz. The Logic of Collective Action. *Journal of the American Statistical Association* 1987

Steven Brams. Superpower Games. *Journal of Politics*, November 1986.

J. David Singer. Correlates of War I and II. *Policy Studies Journal* 10,2:408-410. (1981)

Johan K. DeVree. Foundations of Social and Political Processes. *Western Political Quarterly* 36,3:501-502. (1983)

Nasli Choucri and J. Robinson. Forecasting in International Relations. *American Political Science Review* 73,4:1208-1209. (1979)

Other Publications

“The Miracle of Death.” *Friends Journal*. June 2009.

“Meet you at the Fair: the US Festival.” *Byte* January 1983

“A Generic Word Processor.” *Byte* April 1982.

“A Report from Luckenbach, Texas.” *Mountain Gazette*. (December, 1978)

George Rogers Clark: Frontier Revolutionary. Bloomington, IN: Buffalo Wallow Press, 1976.

Nebo Ridge: Wilderness for Indiana. Indianapolis, IN: Hoosier Chapter of the Sierra Club, 1976.
(with Mark Riddle and Mary Pat Lynch)

A Hiker's Guide to Nebo Ridge. Bloomington, IN: Indiana Sassafras Audubon Society Inc, 1975.
(with John Theile and Mary Pat Lynch)

“Grumman Canoes” in Stuart Brand, ed. *Last Whole Earth Catalog*. Menlo Park, CA: Portola Institute, 1971.

Invited Papers and Presentations since 2006

“Introduction to Event Data Analysis using Open Data Methods.” Department of Political Science, University of Minnesota, April 2016.

“Conflict Analysis: Seven Accomplishments, Seven Challenges.” Keynote address, European Network for Conflict Research (ENCoRe), Geneva, January 2016.

“Generating Event Data: A Comparative Study of Topic Model, Pattern-based and Full Parsing Methods” New Directions in Analyzing Text as Data, New York University, October 2015.

“Evaluation of Automated Event Data Coders using Open Resources” and “Open Event Data and the Prospects for Near-Real-Time Forecasting Models” Peace Research Institute, Oslo. April, 2015.

“Technical Political Forecasting” and “Introduction to Event Data Analysis using Open Data Sets” Department of Political Science and Project Mosaic, University of North Carolina at Charlotte, February 2015.

“Forecasting Political Conflict” and “Open Event Data Analysis” Department of Political Science, University of Wisconsin, Madison, November 2014.

“Contemporary Event Data Analysis” and “New Directions in Technical Political Forecasting.” Institute for Security Studies, Pretoria, South Africa, May 2014.

“Forecasting Political Events.” Joint Meetings of the Conflict Research Society and European Network for Conflict Research (ENCoRe), University of Essex, UK, September 2013.

- “Quantitative Forecasting of Political Conflict.” U.S. State Department Bureau of Intelligence and Research Workshop on Data-Driven Forecasting and Quantitative Analysis, April 2013.
- “Automated Coding of Political Events from a Very Large Text Base.” *New Directions in Analyzing Text as Data*, Harvard, October 2012. (with Jay Yonamine)
- “Seven Deadly Sins of Contemporary Quantitative Analysis.” Theme Panel: A Sea Change in Political Analysis? American Political Science Association, Washington, September, 2010. Additional invited presentations at Canadian Political Science Association (keynote), Waterloo, Ontario (May 2011), University of Kentucky (November 2011), University of Massachusetts, Amherst (November 2011) and Indiana University (October 2012)
- “Fragmented Sovereignty: From Medieval Decentralization to Nation-States and Back Again.” Graduate Institute of International and Development Studies, Geneva, October 2012.
- “Event Data Methodologies for Political Forecasting.” Workshop on Forecasting Political Instability, Council on Foreign Relations, Washington DC, March 2011; U.S. Holocaust Memorial Museum, September 2012.
- “Assessing the Predictability of Conflict in the Levant using Bayesian Model Averaging.” Presented at the conference “After the Arab Spring: Democratization and Regional Security,” Michigan State University, April 2012.
- “Statistical Forecasting of Conflict in the Eastern Mediterranean using a Long Event Time Series.” Presented at the “NSF Conference on New Horizons in the Analysis of the Middle East,” University of South Carolina, October 2011.
- “The Implications of Fragmented Sovereignty on the Future of Terrorism.” Presented at the “Conference on the Future of Terrorism (II),” International Center for the Study of Terrorism, Pennsylvania State University, October 2011.
- “Automated High-Volume Production of Near-Real Time Event Data.” *New Methodologies Conference*, Princeton University, February 2011 and Florida State University, February 2011.
- “Media Coverage and Political Behavior.” Text as Data Conference. Kellogg School of Management, Northwestern University. March 2010.
- “Trends and Challenges in Political Event Data Analysis.” Third International Conference on Computational Cultural Dynamics. University of Maryland Institute for Advanced Computer Studies. December 2009.
- “Natural Language Processing Techniques for Generating Political Event Data from English-Language News Reports.” Conference on Analyzing Debates in Democracy, Vrije Universiteit Amsterdam, November 2008.
- “Pattern Recognition Techniques for Early Warning using Machine-Coded Event Data.” University of North Carolina, October 2008.
- “Geocoding the Political Instability Task Force Worldwide Atrocities Dataset.” Conference on Disaggregating the Study of Civil War and Transnational Violence, University of Essex, November 2007.

[38 additional invited papers 1974-2005]

Papers Presented at Professional Meetings since 2006

- “A Metric for the Comparison of Event Data Set with an Application to Evaluating Multiple-Source Data Sets.” European Political Science Association meetings, Vienna, June 2015.
- “Three’s a Charm?: Open Event Data Coding with EL:DIABLO, PETRARCH, and the Open Event Data Alliance.” International Studies Association, Toronto, March 2014. (with John Beielser and Muhammed Idris)
- “Automating the Extraction of Political Indicators from Text Sources on the Web: Event Data.” International Studies Association, Toronto, March 2014.
- “Improving Forecasts of Improving Forecasts of International Events of Interest.” European Political Science Association meetings, Barcelona, June 2013. (with Bryan Arva, John Beielser, Ben Fisher, Gustavo Lara, Wonjun Song, Marsha Sowell and Sam Stehle)
- “Detecting the Dimensions of News Reports using Latent Dirichlet Allocation Models.” European Political Science Association meetings, Berlin, June 2012 and International Studies Association, San Francisco, April 2013. (with Benjamin Bagozzi)
- “Racing Horses: Constructing and Evaluating Forecasts in Political Science.” Twenty-Eighth Political Methodology Summer Conference, Princeton University, July 2011. (with Patrick Brandt and John Freeman)
- “Forecasting Political Conflict in Asia using Latent Dirichlet Allocation Models.” European Political Science Association meetings, Dublin, June 2011.
- “Separating the Wheat From the Chaff: Application of Two-Step Support Vector Machines to MID 4 Text Classification.” Midwest Political Science Association, Chicago, April 2011. (with Stephen Landis, Vito D’Orazio and Glenn Palmer)
- “Predicting Intra-State Conflict Onset: An Events Data Approach using Euclidean and Levenshtein Distance Measures.” Midwest Political Science Association, Chicago, April 2011. (with Vito D’Orazio and Jay Yonamine)
- “Fragmented Sovereignty: From Medieval Decentralization to Nation-States, or There and Back Again.” International Studies Association, Montreal, March 2011 (with Cristian Cantir)
- “Automated Production of High-Volume, Near-Real-Time Event Data.” American Political Science Association, Washington, September, 2010.
- “Neomedievalism in the Twentyfirst Century: Warlords, Gangs and Transnational Militarized Actors as a Challenge to Sovereign Preeminence.” International Studies Association, New Orleans, February 2010. (with Cristian Cantir)
- “Personality, Popularity, and Prosperity: Exploring Covariates of Israeli Foreign Policy Behavior (1979-2008) Using Discrete Sequence Pattern Recognition.” American Political Science Association, Toronto, September 2009. (with Valerie M. Hudson and Cristian Cantir)
- “Real Time, Time-Series Forecasting of Political Conflict.” International Studies Association, New York, February 2009. (with Patrick Brandt and John Freeman)

- “Automated Detection of Reports of Militarized Interstate Disputes Using the SVM Document Classification Algorithm.” American Political Science Association, Boston, September 2008. (with Glenn Palmer and Mehmet Emre Hatipoglu)
- “Coding Sub-State Actors using the CAMEO (Conflict and Mediation Event Observations) Actor Coding Framework.” International Studies Association, San Francisco, March 2008. (with Ömür Yilmaz, Deborah J. Gerner and Dennis Hermrick)
- “Sub-state Actor, Temporal and Geographical Dimensions of the Dissent-Repression Relationship: Evidence from the Middle East.” American Political Science Association, Chicago, September 2007.
- “Inductive Event Data Scaling using Item Response Theory.” International Studies Association, Chicago, March 2007 and at the Twenty-Fourth Political Methodology Summer Conference, Pennsylvania State University, July 2007.
- “A Conditional Probability Analysis of Pattern-Based Models Applied to Event Data in the Israeli-Palestinian Conflict.” American Political Science Association, Philadelphia, September 2006. (with Valerie M. Hudson)

[64 additional papers presented at professional meetings 1974-2005]

VIII. Teaching

Courses taught 2000-2012:

Introduction to International Relations, United States Defense Policy, International Conflict, International Conflict (graduate) [five additional IR courses taught 1976-1999]

Research Methods in Political Science (graduate), Research Methods in International Studies (graduate), Multivariate Statistics for Political Research (graduate), Event Data Analysis (graduate) [four additional methodology courses taught 1976-1999]

Teaching Awards:

Phi Kappa Phi, 2005 (multi-disciplinary honorary society; three KU faculty are recognized each year)

W.T. Kemper Award for Teaching Excellence, 1999 (KU university-level award for graduate teaching)

H.O.P.E. Award Finalist, 1998 (KU senior class award for undergraduate teaching)

External Instructional Presentations

“Predictive Analytics.” (two-day intensive workshop). Odum Institute, University of North Carolina, June 2014.

“Forecasting Political Conflict.” University of Konstanz, Germany. (graduate lecture series) October 2013.

“Big Data: Separating the Hope from the Hype.” (two-day intensive workshop). Odum Institute, University of North Carolina, May 2013.

“A Practical Guide to Generating Political Event Data using Automated Methods.”
University of Kentucky, November 2011; Indiana University October 2012.

“Introduction to Contemporary Text Analysis”, “Event Data and Conflict Forecasting”,
“Automated Event Coding with TABARI.” Tools for Text Workshop, University of
Washington (Seattle), June 2010 (co-organizer, with John Wilkerson; NSF-funded)

“Event Data Analysis in Computational Political Science.” Lipari International School on
Computational Social Sciences, University of Catania, Italy, 19-21 July 2009.

“Contemporary Methods in Content Analysis.” Graduate student workshop at the Twentieth
Political Methodology Summer Conference, University of Minnesota, July 2003.

“Winter Institute on Event Data Analysis.” (five-day intensive workshop on TABARI and
event data analysis methods). Program on Foreign Policy Analysis, Texas A&M University.
January 2002.

“Mathematical Models of Political Behavior” and “Computer Techniques for Content
Analysis.” Department of Applied Mathematics and Computer Science, Université Gaston
Berger de Saint-Louis, Senegal. June 2000.

“Artificial Intelligence Methods for Social Science Research” ICPSR Summer Program, 1987,
1988.

“Mathematical Models in International Relations.” ICPSR Summer Program, 1984.

IX. Professional Service

Editorial Boards:

International Studies Quarterly (1996-1998, 2003-2013), *Political Analysis* (1993-1999,
2005-2015), *New Millennium Books Series* (Rowman and Littlefield; 2001-2011), *American
Journal of Political Science* (1986-1990, 2006-2009), *Journal of Information Technology &
Politics* (2007-2009), *Social Science Computer Review* (1996-2000), *Journal of Politics*
(1989-1993, 2009-2010),

Governing Boards:

American Political Science Association Political Methodology Section (president 2007-2009,
vice-president 2005-2007, treasurer, 1994-2000)

American Political Science Association Committee on Professional Ethics, Rights, and
Freedoms (2009-2011)

Correlates of War Project (2009-2013)

American Political Science Association Affiliated Section on Political Forecasting (2006-2011)

American Political Science Association Conflict Processes Section (1985-88, 2002-2005)

International Studies Association Workshop Grants Committee (chair, 2002-2004)

International Studies Association Foreign Policy Analysis Section (president, 2000-2001)

Inter-University Consortium for Political and Social Research Council (1992-95)

Data Development in International Relations Project (1989-91)

National Science Foundation

Methods, Measurement and Statistics Program Panel, 2009-2010

Political Science Program Panel, 2000-2002

Information Technology Research Multi-disciplinary initiative panels, 1999-2000.

Graduate Fellowship evaluation panel, 1990-1992.

Conference Organizing:

Foreign Policy Analysis panels, International Studies Association 2000

International Studies Association annual convention, 1995 (with Deborah Gerner)

International Relations panels, Midwest Political Science Association 1980

Methodology panels, Midwest Political Science Association 1982

X. Internal Grants:

“A Socio-Cultural Typology of Political Violence.” Humanities Research Fellowship, University of Kansas Hall Center for the Humanities. 2004-2005 (one semester teaching release)

“Extension of the KEDS Middle East Data Series Using New Resources from NEXIS.” (with Deborah Gerner) University of Kansas General Research Allocation Fund. 2003. \$10,000.

“The Development of Dictionaries and Support Software for the TABARI Automated Event Coding System.” (with Deborah Gerner) University of Kansas General Research Allocation Fund. 2001. \$13,000.

“The Development of Event Data for the Early Warning of Political Crises in the Persian Gulf Region.” (with Deborah Gerner). University of Kansas General Research Allocation Fund. 1997. \$9,143.

“The Development of Early Warning Indicators for the Assessment of Multilateral Intervention.” (with Deborah Gerner). University of Kansas General Research Allocation Fund. 1995. \$7,000.

“Development of Machine Coding Software for Event Data Coding.” University of Kansas General Research Allocation Fund. 1991. \$5,000.

“Applications of Artificial Intelligence to the Analysis of International Events.” University of Kansas General Research Allocation Fund. 1989. \$5,000.

“Grant for the Establishment of a Center for International Studies.” (with Frank Safford) Northwestern University administrative grant. 1987. \$120,000

“Research on the papers of Lewis F. Richardson.” Northwestern University Faculty Research grant, 1984, \$1,500.

XI. University Service**Pennsylvania State University Committees:**

International Center for the Study of Terrorism, Pennsylvania State University, 2009-2013

University of Kansas Committees:

Center for International Political Analysis, Institute for Policy and Social Research (co-director; executive committee) (2000-2009)

College of Liberal Arts and Sciences International Studies Task Force (chair) (2008)

University Task Force on Research Computing (2006-2007)

University Task Force on Restricted Research Policies (2005-2006)

Committee to Establish an Undergraduate Minor in Conflict and Peace Studies (2001-2003)

Committee to Establish a Master of Arts in International Studies (1995-2000)

College of Liberal Arts and Sciences Graduate Studies Committee (1998-2001)

Political Science Departmental Executive Committee (1989-1990, 1992-1993, 1996-1997, 1999-2000, 2002-2003, 2007-2008)

General Research Fund Review Committee, 1990, 1992, 1994, 2006-2007

Fulbright/Direct Exchange Selection Committee, 1991-1993

Northwestern University Committees:

Committee to Establish an Undergraduate Major in International Studies (co-chair) (1986-88)

Honors Program in Mathematical Methods in the Social Sciences (1978-87; Director, 1987-88)

Director of Graduate Studies, Department of Political Science (1980-81, 1982-83, 1985-87)

Computer Studies Program (1980-87)

Animal Care and Use Committee (1985-88)

XII. Miscellaneous Activities and Awards

Fellow, Society for Political Methodology, 2008

United States Multi-Agency Political Instability Task Force (consultant, 2004-2006, member 2007-present)

Election Observer, United States National Council of Churches, Palestinian National Council Elections, January, 1996.

Intensive Modern Standard Arabic, British Council, Cairo, Egypt: Summer, 1993

“The Enforcement of Arms Limitations through Economic Sanctions.” Finalist, 1980 Rabinowitch Competition, *Bulletin of the Atomic Scientists*.

United States Department of State Scholar-Diplomat Seminar, Washington, 1978.
Topic: Political-Military Affairs

Katherine C. Greenough Award, Indiana University Department of Political Science, 1977 (best doctoral dissertation)

First Prize, Midwest Peace Science Society (International) Student Paper Competition, 1975

Foreign Travel:

United Kingdom (resident, 1979-80), West Bank (resident 1996), Norway (resident 2012), Egypt, Israel, Jordan, Lebanon, Mauritania, Morocco, Syria, Turkey, Western Europe, Russia,

Mexico, Costa Rica, Senegal, Mali, Kenya, Sudan, Ethiopia, South Africa, China, Japan, Thailand.

XIII. References

Lee Ann Banaszak, Department of Political Science, Pennsylvania State University, State College, PA 16802 (813-863-1449)

Patrick Brandt, Department of Political Science, University of Texas at Dallas, Richardson, TX 75080 (972-883-4923)

Thomas Carsey, director, Odum Institute, University of North Carolina, Chapel Hill, NC 27599 (919-962-3061)

John Freeman, Department of Political Science, University of Minnesota, Minneapolis, MN 55455 (612-624-6018)

Valerie Hudson, Bush School of Government and Public Service, Texas A&M University, College Station, TX 77843 (979-862-3469)

Steven Maynard-Moody, Institute for Policy and Social Research, University of Kansas, Lawrence, KS 66045-3129 (785-864-3701)

Michael Ward, Department of Political Science, Duke University, Durham, NC 27708 (919-660-4300)