

CURRICULUM VITAE
Katherine Ann Willyard

Department of Sociology
Texas A&M University
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August 2018

ACADEMIC DEGREES

Ph.D. 2018 Texas A&M University, Department of Sociology (Expected December 2018)

Dissertation: "The Effects of Organizational, Community, and State Regulatory Characteristics on Oil and Gas Extraction Facility Venting and Flaring Practices"

Committee: Dr. Theresa Morris, Department of Sociology (Chair)
Dr. Arthur Sakamoto, Department of Sociology
Dr. Mary Campbell, Department of Sociology
Dr. Daniel Goldberg, Department of Geography

2017 Funded by National Science Foundation Doctoral Dissertation Research Improvement (NSF-DDRI) Grant, [SES-1702683](https://www.nsf.gov/awardsearch/showAward?AWDNO=1702683)

2017 Received Dissertation Mentorship with Dr. Randy Becker, Principal Economist, and Special Assistant to the Chief Economist, Center for Economic Studies, United States Census Bureau

M.S. 2014 Texas A&M University, Department of Sociology

Dissertation: "Politics and Power: The 1992 Israeli Loan Guarantees"

Committee: Dr. Harland Prechel, Department of Sociology (Chair)
Dr. Joseph Jewell, Department of Sociology
Dr. Michelle Taylor-Robinson, Department of Political Science

B.S. 2008 Texas A&M University, Department of Sociology

GRADUATE CERTIFICATES

2015 Geographic Information Systems, Texas A&M University, Department of Geography and Department of Ecosystem Science and Management

2012 Nonprofit Management, Texas A&M University, Bush School of Public Service

RESEARCH AND TEACHING INTERESTS

Classical Social Theory, Coupled Human and Natural Systems, Critical Geography, Economic Sociology, Environmental Sociology, Medical Sociology, Political Sociology, Program Evaluation and Public Policy Analysis, Quantitative and Qualitative Data Analysis, Social Inequality, Social Problems, Social Science Research Design and Methods, and Sociology of Organizations

PROFESSIONAL EMPLOYMENT RECORD

2015-present Graduate Researcher, Texas Federal Statistical Research Data Center

2015 Instructor of Record (Social Problems), Texas A&M University

2014 Graduate Research Assistant, Texas A&M University, Department of Sociology

2012-2014 Academic Advisor, Texas A&M University, Department of Sociology

PEER REVIEWED PUBLICATIONS

Manuscripts under Review

Katherine Ann Willyard. "The Organizational Political Economy of the Environment and Changes in Texas Oil and Gas Flaring Regulations from 1889-1990"

Katherine Ann Willyard. "Disproportionalities in Facility Production of and Community Exposure to Texas Oil and Gas Venting and Flaring"

Katherine Ann Willyard. "Who Is Burning Money and Throwing It In the Air?: A Quantitative Analysis of Disproportionality of Texas Oil and Gas Venting and Flaring Practices in 2012"

2018 Recipient of the Rural Sociological Society Graduate Student Paper Award- Natural Resources Research Interest Group

Manuscripts in Preparation

* Undergraduate student collaborator

Katherine Ann Willyard, Nina Canal*, Angelina Dumlao*, Miranda Hooper*, Will Thompson*, and Gunnar Schade. "Flaring in Two Texas Shale Areas: Comparison of Bottom-up and Top-down Volume Estimates from 2012 to 2015"

Megan Augustyn, and Katherine Ann Willyard. "Contextual Influences on Help-Seeking Behavior for Intimate Partner Violence"

2016 Federal Statistical Research Data Center Project Approved (TX1392)

Research in Progress

Verna Keith, Mark Fossett, and Katherine Ann Willyard. "Residential Segregation, Neighborhood Disadvantage and Allostatic Load"

Katherine Ann Willyard, Sarah Gatson, and Marissa Cisneros. "The Contextual Effects of Supplemental Nutrition Assistance Program Participation on Health Care Expenditures among Low-Income Adults"

2018 Awarded a Texas Federal Statistical Research Data Center Seed Grant

Katherine Ann Willyard, Theresa Morris, and Mary Campbell. "Understanding the Effects of Firm and Establishment Organizational Characteristics, and the Characteristics of Organizational Institutional Environments on Texas Oil and Gas Venting and Flaring Practices Using Restricted Business and Community Data"

2018 Federal Statistical Research Data Center Project Approved (TX1758)

Megan Augustyn, Amber Crowell, and Katherine Ann Willyard. "Contextual Influences of Crime Reporting, Police Use of Force, School Discipline, and Verbal Bullying"

OTHER PUBLICATIONS

Op-Ed Articles

2017 Katherine Ann Willyard. "The Need for Better Texas Oil and Gas Industry Regulatory Data," *Texas Tribune*

Web Applications

2017 Katherine Ann Willyard. "Texas Community Exposure to Oil and Gas Facility Venting and Flaring Practices in 2012"

Data Products

2017 Katherine Ann Willyard. "The Relationship Between Organizational, Community, and State Regulatory Characteristics and Texas Oil and Gas Extraction Facility Venting and Flaring Practices," Inter-University Consortium for Political and Social Research
<http://doi.org/10.3886/E101192V1>

Katherine Ann Willyard. "Texas County Oil and Gas Production, Venting, and Flaring Volumes," Inter-University Consortium for Political and Social Research
<http://doi.org/10.3886/E100901V1>

FUNDED GRANTS

- 2018 Katherine Ann Willyard, and Sarah Gatson. Seed Grant, Texas Federal Statistical Research Data Center, “The Contextual Effects of Supplemental Nutrition Assistance Program Participation on Health Care Expenditures among Low-Income Adults,” \$4,250
- 2018 Katherine Ann Willyard. Texas A&M University, Department of Sociology, Graduate Research Award, “Undergraduate Corporate Structure Data Collection and Training,” \$900
- 2017-2019 Katherine Ann Willyard (PI) and Theresa Morris (Project Director). National Science Foundation Doctoral Dissertation Research Improvement Grant, [SES-1702683](#), “The Effects of Organizational, Community, and State Regulatory Characteristics on Texas Gas Well Venting and Flaring Rates,” \$11,954
- 2017 Katherine Ann Willyard. Texas A&M University, Department of Sociology, Graduate Research Award, “Texas Railroad Commission Digital Map and API Data Purchase,” \$3,082
- 2016 Katherine Ann Willyard. Texas A&M University, Department of Sociology, Graduate Research Award, “Texas Railroad Commission Drilling Permit, Production Data, and Regulatory Data Purchase” \$4,135
- 2015-2016 Katherine Ann Willyard. Texas A&M University Melburn G. Glasscock Center for Humanities Research Graduate Research Fellowship Program, “Archival Research on the Historical Development of Texas Railroad Commission Venting and Flaring Regulations,” \$2,000
- 2015 Katherine Ann Willyard. Texas A&M University, College of Liberal Arts, Professional Development Support Award, “Longitudinal Data Analysis Workshop,” \$2,337
- 2015 Katherine Ann Willyard. Texas A&M University, Department of Sociology, Graduate Research Award, “Texas Railroad Commission Programmed Data Purchase,” \$765
- 2011 Katherine Ann Willyard. Texas A&M University, Department of Sociology, Graduate Research Award, “Archival Research on the Development of United States Loan Guarantee Policy,” \$600

SUBMITTED GRANT APPLICATIONS

- 2018 Katherine Ann Willyard, and Don Grant. 2018, Social, Behavioral and Economic Sciences Postdoctoral Research Fellowship, “Advancing an Organizational

Theory of the Environment: A Multi-Level Study of the Organizational Causes of Ecologically Inefficient Industrial Production Facilities,” \$138,000, Unfunded

AWARDS

Recipient of 2018 Rural Sociological Society Graduate Student Paper Award- Natural Resources Research Interest Group for the article, "Who Is Burning Money and Throwing It In the Air?: A Quantitative Analysis of Disproportionality of Texas Oil and Gas Venting and Flaring Practices in 2012," \$100

Recipient of 2017 United States Department of Commerce, Census Bureau, Center for Economic Studies Dissertation Mentorship, Mentor is Dr. Randy Becker, Principal Economist and Special Assistant to the Chief Economist

Recipient of 2017 Texas A&M University GIS Day Paper Completion, 2nd Place Award for the paper “Comparing Block Group and Facility Analysis of Disproportionate Community Exposure to Texas Oil and Gas Venting and Flaring Practices in 2012,” \$100

Recipient of 2015 Texas A&M University Graduate Teaching Academy, Academy for Future Faculty Fellowship

Recipient of 2014 International Interdisciplinary Social Sciences Graduate Scholar Award, \$500

Recipient of 2011 Southwestern Social Science Association, Best Graduate Presentation- Visual Sociology for the display “Separation Barriers,” \$100

SCHOLARSHIPS

Recipient of 2014 Texas A&M University, Texas Aggie Graduate Grant, \$1,500

Recipient of 2011 Texas A&M University, Bush School of Public Service, Online Student Scholar Award, \$1,000

Recipient of 2011 Texas A&M University, Department of Sociology, Academic Recognition Scholarship, \$1,000

PRESENTATIONS

Papers Presented at Conferences

* Undergraduate student collaborator

2018 Katherine Ann Willyard, Nina Canal*, Angelina Dumlao*, Miranda Hooper*, William Thompson*, and Gunnar Schade. “Estimation of Texas Flaring and Venting Volumes from upstream Oil and Gas Facilities Using Texas Railroad Commission Reports and

- National Oceanic and Atmospheric Administration Satellite Imagery, 2012-2015,” To Be Presented at the Third Annual Texas A&M Conference on Energy
- 2018 Megan Augustyn, and Katherine Ann Willyard. “Improving the Quality of the National Crime Victimization Survey and Police Public Contact Survey in order to Better Understand the Determinates of Help-Seeking Behavior among Victims of Intimate-Partner Violence and Sexual Assaults,” To Be Presented at the Annual Federal Statistical Research Data Center Annual Research Conference
- 2018 Katherine Ann Willyard. “Disproportionalities in Facility Production of and Community Exposure to Oil and Gas Venting and Flaring,” Presented at the American Sociological Association Annual Meeting, Innovative Perspectives on Environmental Justice Paper Session
- 2018 Katherine Ann Willyard. “Who Is Burning Money and Throwing It in the Air?: A Quantitative Analysis of Disparities in Texas Oil and Gas Extraction Facility Venting and Flaring Practices in 2012,” Presented at the Rural Sociological Society Annual Meeting
- 2017 Megan Augustyn, and Katherine Ann Willyard. “Contextual Influences on Help-seeking Behavior for Intimate Partner Violence,” Presented at the American Society of Criminology Annual Meeting
- 2017 Katherine Ann Willyard. “Comparing Block Group and Facility Analysis of Disproportionate Community Exposure to Texas Oil and Gas Venting and Flaring Practices in 2012,” Presented at Texas A&M GIS Day
- 2017 Katherine Ann Willyard. “Community Exposure to Texas Gas Well Venting and Flaring Emissions in 2012,” Presented at the Southwestern Social Science Association Annual Meeting
- 2016 Harland Prechel, and Katherine Ann Willyard. “Organizational Political Economy and Greenhouse Gas Emissions: A Multilevel Analysis of the United States Energy Sector,” Presented at the Annual Federal Statistical Research Data Center Annual Research Conference
- 2015 Katherine Ann Willyard. “Corporate-State Relations and State Environmental Policy: A Historical Study of Texas Flaring Regulations, 1930-2013,” Presented at the American Sociological Association Annual Meeting, Environmental Sociology Round Table Session
- 2014 Katherine Ann Willyard. “Understanding United States Foreign Policy in the Middle East: The 1992 Israeli Loan Guarantee Showdown,” Presented at the International Interdisciplinary Social Science Conference Annual Meeting

- 2014 Katherine Ann Willyard. "The 1992 Israeli Loan Guarantees: A Key to Understanding Political Power in the United States' Middle East Foreign Policy," Presented at the Southwestern Social Science Association Annual Meeting

Posters Presented at Conferences

- 2017 Katherine Ann Willyard. "Separation Barriers," Presented at the Southwestern Social Science Association Annual Meeting

Invited Lectures

- 2011 Katherine Ann Willyard. "Graduate Student Dissertation Research in a Federal Statistical Research Data Center (FSRDC): The Effects of Organizational Characteristics and the Characteristics of Organizational Institutional Environments on Texas Oil and Gas Venting and Flaring Practices," Presented at the Rocky Mountain Federal Statistical Research Data Center

Lectures at Texas A&M University

- 2018 Ernesto Amaral, and Katherine Ann Willyard. "Introduction to Bayesian Models Using Stata," Presented at the Texas Federal Statistical Research Data Center
- 2018 Katherine Ann Willyard. "Graduate Student Dissertation Research in a Federal Statistical Research Data Center (FSRDC): The Effects of Organizational Characteristics and the Characteristics of Organizational Institutional Environments on Texas Oil and Gas Venting and Flaring Practices," Presented the Texas Federal Statistical Research Data Center
- 2017 Katherine Ann Willyard. "Graduate Student Dissertation Research in a Federal Statistical Research Data Center (FSRDC): The Effects of Organizational Characteristics and the Characteristics of Organizational Institutional Environments on Texas Oil and Gas Venting and Flaring Practices," Presented the Texas Federal Statistical Research Data Center.
- 2016 Katherine Ann Willyard. "Corporate-State Relations and State Environmental Policy: Texas Oil and Gas Flaring Regulations, 1890-2014," Presented the Glasscock Center Library
- 2016 Katherine Ann Willyard. "Graduate Student Dissertation Research in a Federal Statistical Research Data Center (FSRDC): The Effects of Organizational Characteristics and the Characteristics of Organizational Institutional Environments on Texas Oil and Gas Venting and Flaring Practices," Presented the Texas Federal Statistical Research Data Center

COURSES TAUGHT AT TEXAS A&M UNIVERSITY

Instructor of Record- Full Responsibility

2015	Spring	SOCI 316	Social Problems
	Summer	SOCI 316	Social Problems

Guest Lecturer

2014 SOCI 230 Classical Sociological Theory “The Nature and Types of Social Theory”

2017 SOCI 335 Sociology of Organizations “Resource Dependence Theory”

SERVICE

Texas A&M University

2018	Texas A&M Aggie Undergraduate Research Leader
2012-2016	ATMentors, College of Liberal Arts
2013-2014	Diversity Committee, Department of Sociology, elected
2012-2013	Sociology Club Advisor, appointed

Discipline

2018 Natural Resources Panel Chair, Fossil Fuels and Public Perception Panel, Annual Meeting of the Rural Sociological Society, appointed

STUDENTS SUPERVISED

Corporate Structure Data Collection Undergraduate Mentees

Garrison Reed Completed 2017

Environmental Program Senior Thesis Group Advisees

Nina Canal	Completed 2017
Angelina Dumlao	Completed 2017
Miranda Hooper	Completed 2017
William Thompson	Completed 2017

Texas A&M Aggie Research Leadership Program Undergraduate Mentees

Nina Canal	Completed 2018
Angelina Dumlao	Completed 2018
Miranda Hooper	Completed 2018
William Thompson	Completed 2018

PROFESSIONAL AFFILIATIONS

American Sociological Association
Southwestern Social Science Association
Rural Sociological Society

RESEARCH SKILLS

Facilitating Large Restricted Federal Data Analysis

Administered 1900, 1910, 1920, 1930, and 1940 IPUMS- USA micro-level Census data files located at Texas A&M University
Managed and analyzed restricted business, community, health and crime data available at a Federal Statistical Research Data Center

Quantitative Analysis

Bayesian Analysis
Contextual Analysis
Econometric models for dealing with excess zeros
Econometrics for experimental economics
Generalized linear mixed modeling for clustered and longitudinal data
Two-step multilevel analysis to deal with large level-two sample sizes

Spatial Analysis

ArcGIS
ArcPy
Spatial statistics

Statistical Software

Stata
SAS
R
MATLAB
Excel

Other Programming Skills

Python
VBA
HTML
CSS

Qualitative Analysis

Archival research
Content analysis
Focus groups
Historical comparative analysis
Interviews
Participant observation
Program evaluations

Qualitative Software

ATLAS.ti
Qualtrics

Quantitative Datasets

Annual Survey of Public Employees and Payroll
American Community Survey (Public and Restricted Versions)
Business Register/Standard Statistical Establishment List (Restricted)
Census Annual Estimates of Population
Census of Mining (Restricted)
Census Small Area Income Population Estimates
Compustat
County Business Patterns
Decennial Census (Public and Restricted Versions)
Economic Research Service SNAP Policy Database
Greenhouse Gas Reporting Program
Integrated Public Use Microdata Series- United States (Restricted)
Lexis Nexis Corporate Affiliations
Longitudinal Business Database (Restricted)
Medical Expenditure Panel Survey
National Health Interview Survey (Public and Restricted Versions)
National Center for Charitable Statistics
National Cooperative Soil Survey/States Soil Geographic dataset
National Crime Victimization Survey (Public and Restricted Versions)
Police-Public Contact Survey (Public and Restricted Versions)
Report of Organizations (Restricted)
Risk-Screening Environmental Indicators
Suomi National Polar-Orbiting Partnership Visible Infrared Imaging Radiometer Suite Global
Gas Flaring Observed from Space
State Soil Geographic Database
Texas Railroad Commission Databases
Topologically Integrated Geographic Encoding and Referencing/Line Shapefiles
Toxic Release Inventory
Uniform Crime Reporting Program

United States Department of Agriculture SNAP Policy Database
United States Department of Agriculture Local Food Directories

ADMINISTRATIVE AND TEACHER TRAINING

Research Ethics

Data Stewardship Training
Title 26 Awareness Training

Diversity and Inclusiveness

Building a Community of Respect in the Classroom
Enhancing Teaching and Learning for All Students with Universal Design and Technology
Working with Students with Disabilities

Communication

Assertiveness Training
Interpersonal Communication Skills
Understanding Communication Styles
Working in a Team Environment

Teaching

Effective Exam Item Creation
High Impact Practices and Measuring Effectiveness
Humanizing Education, Learning, and Leadership On/Offline
Metacognition
Questioning Skills and Techniques
Strategies to Promote Active Learning
Technology Enhanced Approaches for Engaging Students in Large Classes
Techniques in Lecturing
The Six Pillars of Engagement
Teaching College Writing

Advising

Fundamentals of Managing Departmental Records
Goal Setting
Intrusive Academic Advising: An Effective Strategy to Increase Student Success
Organizational Alignment and Culture

Student Safety

Brutality 101- Bullying in Higher Education

Emergency Preparedness
QPR Suicide Prevention Gatekeeper
Responding to Reports of Sexual Harassment
Shots Fired on Campus

REFERENCES

Dr. Theresa Morris (Dissertation Committee Chair)
Professor, Department of Sociology, Texas A&M University
Academic Building 416, Mail Stop 4351, College Station, TX 77843-4351
979-862-3193 / theresa.morris@tamu.edu

Dr. Mary Campbell (Dissertation Committee Member)
Associate Professor, Department of Sociology, Texas A&M University
Associate Director, Texas Federal Statistical Research Data Center
Academic Building 327C, Mail Stop 4351, College Station, TX 77843-4351
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Dr. Katheryn Dietrich (Teaching Mentor)
Instructional Associate Professor, Department of Sociology, Texas A&M University
Director, Internship Program, Department of Sociology, Texas A&M University
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Dr. Mark Fossett (Research Supervisor)
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Director, Texas Federal Statistical Research Data Center
200 Discovery Drive, Mail Stop 2406, College Station, TX 77843-2406
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Dr. Daniel Goldberg (Dissertation Committee Member)
Assistant Professor, Department of Geography, Texas A&M University
Director, GeoInnovation Service Center
810 Eller O&M Building, Mail Stop 3147, College Station, TX 77843-3147
979-845-6395 / daniel.goldberg@tamu.edu

Dr. Arthur Sakamoto (Dissertation Committee Member)
Professor, Department of Sociology, Texas A&M University
425A Academic Building, Mail Stop 4351, College Station, TX 77843-4351
979-845-5133 / asakamoto@tamu.edu

Dr. Gunnar Schade (Undergraduate Research Partner)
Associate Professor, Department of Atmospheric Sciences
1104A O&M Building, Mails Stop 3150, College Station, TX 77843-3150
979-845-0633 / gws@tamu.edu