

## CURRICULUM VITA

### Catherine Brownlee Talbot

Doctoral Student, Department of Sociology  
Population Program, Institute of Behavioral Science  
University of Colorado Boulder  
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## EDUCATION

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- In Progress    Doctor of Philosophy, Sociology  
*University of Colorado – Boulder, Boulder, CO*
- 09/2004        Master of Science, Geological Sciences  
*Indiana University Bloomington, Bloomington, IN*
- 12/1998        Bachelor of Science, Geological Sciences  
*Indiana University Bloomington, Bloomington, IN*

## RESEARCH INTERESTS

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Environmental sociology, migration, natural resources, spatial analysis, quantitative methods, rural United States.

## PROFESSIONAL EXPERIENCE

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- 05/2011 - 05/2015/    Senior Project Scientist/Senior Project Consultant  
01/2016 - 06/2016    Environmental Resources Management, Inc. Denver, CO
- Developing conceptual groundwater flow and transport models using Geographic Information Systems (GIS) and 3D computer software
  - Analysis of spatial environmental data using GIS software and generation of figures for technical reporting
  - Managing datasets and performing statistical analysis on environmental data
  - Collaborative authoring of technical reports to State and Federal agencies

- 09/2010 - 05/2011    Data Validator  
Analytical Quality Associates, Inc. Albuquerque, NM (worked remotely)
- Performing Level I, Level III, and Level IV data validation for organic, inorganic, and radiochemical data
- 10/2004 - 09/2010    Staff Hydrogeologist/Project Hydrogeologist  
Geomatrix Consultants, Inc. (Acquired by AMEC Foster Wheeler, Inc.)  
Denver, CO
- Generating maps and data visualization products (subsurface contaminant plume maps) for reporting and site assessment using GIS software
  - Developing conceptual groundwater flow and transport models for remediation, water supply, saltwater intrusion impacts, and mining design
  - Analyzing environmental data (chemical, climatological, geologic, and hydrologic)
  - Monitoring well installation, logging, groundwater and surface water sampling
- 06/2001 - 08/2004    Data Content Coordinator/Data Management Engineer  
Schlumberger Technology Corporation  
Houston, TX
- Providing customized technical solutions for clients using data management and GIS tools
  - Managing data in Oracle databases
  - Project team member for implementation of ArcIMS website

## RESEARCH EXPERIENCE

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- 2018 - 2019    University of Colorado Boulder Population Graduate Research Assistant for Dr. Lori Hunter Innovative SEED Grant.
- Analysis of spatial masking techniques to anonymize household locations for the Agincourt Health Demographic Surveillance Site, South Africa.
  - Collaborative work with Earth Lab to acquire remote sensing data for environmental resource measures.
  - Writing scripts for anonymization procedures and spatial analysis using python and evaluation of results using STATA.

- 2018 Spring University of Colorado Boulder Population Program Teaching Assistant for Dr. Lori Hunter and Dr. Stefan Leyk.
- Developing and organizing a database of demographic and cultural data for small US towns using US Census, USDA ERS, National Historic Places, and county-level health and religious data.
  - Regression, trajectory analysis, and structural equation modeling of demographic and economic trends of Tiny Towns.
  - Performing dasymetric refinement of population estimates for block/place data with python/Arc-GIS.
- 1998-2001 Graduate Research Assistant for Department of Geological Sciences, Indiana Department of Environmental Management (Drinking Water Division) and Office of Indiana Seed Commission.
- Coordination and completions of quarterly monitoring of wells and springs for the State Pesticide Management Plan
  - Assisting with aquifer testing and groundwater sampling at a pre-remediation site
  - Assisting with sample collection at various mine reclamation sites

## TEACHING EXPERIENCE

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### Graduate Teaching Assistant

*Sociology Department, University of Colorado Boulder*

2018 SOCY 1001: Introduction to Sociology (Fall)

2017 SOCY 1001: Introduction to Sociology (Spring)

2016 SOCY 1001: Introduction to Sociology (Fall)

*Department of Geological Sciences, Indiana University Bloomington*

2001 G105: Introduction to Geology (Spring)

## PEER-REVIEWED PUBLICATIONS

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- 2000 Cooper, D.C., Picardal, F., Riveria, J., Talbot, C.B. (2000). Zinc Immobilization and Magnetite Formation via Ferric Oxide Reduction by *Shewanella Putrefaciens* 200. *Environmental Science & Technology*, p. 100-106. 2000.

## CONFERENCE PRESENTATIONS

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- 2018 Counterman, Miriam, Talbot, Catherine, Hunter, Lori, Twine, Wayne. *The Gendered Aspects of Natural Resource Use and Livelihood Migration in Rural South Africa*.

- Poster Session. Population Association of America, Denver, Colorado. April 26-28, 2018.
- 2018 Hunter, Lori M., Talbot, Catherine, Counterman, Miriam, Connor, Dylan, Gutmann, Myron. *Demographic Trajectories Across the Rural Continuum: Are Tiny Towns Distinct?* Population Association of America, Denver, Colorado. April 26-28, 2018.
- 2016 Luis, S., Singhal, A., Talbot, C., Mai, T., and Linkletter, G. (2016). *Basin Wide Groundwater Model of the Rialto-Colton Basin for the Source Area OU Remedy for the RFF Superfund Site.* National Groundwater Association Groundwater Summit, Denver, Colorado. April 24-27, 2016.
- 2014 Luis, S., Singhal, A., Talbot, C., Mai, T., and Linkletter, G. (2014). *Development and Implementation of a Basin-Wide Groundwater Model of the Rialto-Colton Basin for the Source Area Operable Unit Remedy for the Rockets, Fireworks, and Flares Superfund Site.* Groundwater Resources Association of California. 23rd Annual Meeting. Sacramento, California. October 15-16, 2014.
- 2014 Luis, S., Singhal, A., Talbot, C., Mai, T., and Linkletter, G. (2014). *Basin-Wide Groundwater Model of the Rialto-Colton Basin for the Source Area Operable Unit Remedy for the Rockets, Fireworks, and Flares Superfund Site.* Battelle Ninth International Conference on Remediation of Chlorinated and Recalcitrant Compounds. Monterey, California, May 19-22, 2014.
- 2008 Weaver, J., Talbot, C., Bloes, M., Longino, B., and Daus, A. (2008). *Evaluation of Groundwater-Saltwater Interaction within the Tidal Influence Zone.* Battelle Remediation of Chlorinated and Recalcitrant Compounds, Sixth International Conference, Monterey, CA, May 19-22, 2008.
- 2006 Talbot, C.B., Weaver, J.D. (2006). *Assessing the Influence of Transport Solution Methods on Variable-Density Simulations of Saltwater Upconing Using SEAWAT.* MODFLOW and More 2006 Managing Groundwater Water Systems Conference. Golden, Colorado, May 21-24, 2006.
- 2001 Motzel, B.C., Krothe, N.J, Hartke, E.J., Harper, D., Spalding, R.F., Talbot, C.B., and Loheide II, S.P. (2001). The use of nitrogen and sulfur isotopes in a shallow outwash aquifer. *XXXI International Association of Hydrogeologists Congress*, v. 1, p. 595-599.

#### HONORS AND AWARDS

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- 1999 Phi Beta Kappa Society  
1998 Golden Key Honor Society

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## GRANTS FUNDED

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- 2018 *Analysis of Population Trends in Tiny Towns in Rural America*. Department of Sociology Summer Research Funding. University of Colorado Boulder. \$750.
- 1998 *Microbially Mediated Geochemical Alterations of Iron Oxide Minerals*. Research and University Graduate School (RUGS) Program, Indiana University, Bloomington. \$1,500, funded.

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## TECHNICAL SKILLS

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*GIS*: ArcGIS, QGIS, ArcScene, ArcINFO, ArcSDE

Statistical Packages/Coding: Python, MPlus, Stata, Excel, Visual Basic, Unix

*Database*: Microsoft Access, Oracle, Equis, SQL

*Groundwater and Vadose Zone Modeling*: MODFLOW-88, MODFLOW-2000, MODFLOW-SURFACT, SEAWAT, MT3TDS, FEFLOW, and VS2DT.

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## CERTIFICATIONS/TRAINING

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ASTM International Phase I & II Environmental Site Assessment

HAZWOPER 40-hour

MSHA 24-hour

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## SERVICE

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2018-2019 University of Colorado Boulder Department of Sociology Professional Seminar Committee

2017-2018 University of Colorado Boulder Department of Sociology Graduate Student Mentor

2015-2018 Boulder Valley School District Fireside Elementary classroom volunteer

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## PROFESSIONAL AFFILIATIONS

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Population Association of America

National Groundwater Association (past)

ASTM International (past)