**Rensselaer Polytechnic Institute**

**STSS 6963 - Community-Engaged STS**

Spring 2020

Thursday 9-11:50 am

Sage 5711

Professor Abby Kinchy

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Office hours: Monday 9 am - noon

**Course Description:** This course will explore what it means to do community-engaged research about science and technology, and how the field of Science and Technology Studies (STS) can help to improve community engagement in other areas of research, such as medicine or engineering.

A report from the Centers for Disease Control and Prevention (1997, p. 9) explains that community-engaged research is: “…the process of working collaboratively with and through groups of people affiliated by geographic proximity, special interest, or similar situations to address issues affecting the well-being of those people. …It often involves partnerships and coalitions that help mobilize resources and influence systems, change relationships among partners, and serve as catalysts for changing policies, programs, and practices.”

Some STS researchers engage in research that fits the above definition. Methods of community engagement include participatory technology assessment, “consensus conferences,” participatory action research, and other strands of STS “making and doing.” In this course, we will read books and articles resulting from such projects, as well as learn about ongoing collaborative projects through websites, social media, and videos.

We will also probe how STS research and theories inform community-engaged research in other fields of study, whether it takes the form of citizen science, participatory design, or some other kind of community-based participatory research (CBPR).

**Expected Learning Outcomes:** Students who successfully complete this course will be able to:

* Identify a wide range of community-engagement activities that are used in a variety of research fields.
* Grapple with the ethical and political implications of community-engaged scholarship.
* Compare and evaluate examples of community-engaged research.
* Develop original ideas and plans for community engagement in their own scholarly and professional practices.
* Lead interactive and challenging classroom discussions.

**Course Texts:** Assigned articles and book chapters will be provided via a shared Box folder. The following books are required for this course. They are available at the campus bookstore, and can be found at reasonable prices online.

*Science by the People: Participation, Power, and the Politics of Environmental Knowledge* by Aya H. Kimura and Abby Kinchy (Rutgers University Press, 2019)

*Fractivism: Corporate Bodies and Chemical Bonds* by Sara Ann Wylie (Duke University Press, 2018)

*Digital Dead End: Fighting for Social Justice in the Information Age* by Virginia Eubanks (The MIT Press, 2012)

**Assignments and Grading:** Students in this course will produce two major pieces of writing. The first is a comparative analysis of at least two specific examples of community-engaged research. The second is a proposal for a research project (relevant to the student’s professional goals) that involves community engagement.

Final grades will be based on evaluations of the following assignments.

* Leadership of Class Discussion (15%): Each student will be responsible for guiding and structuring class discussion of the assigned readings for 90 minutes once during the semester. Your main goal in this assignment is to orchestrate a rich, fruitful discussion. Therefore, you will have to read the assigned texts and come up with a list of provocative questions to help guide, nurture, and stimulate the conversation of your classmates. By 12 noon on the day prior to the class meeting, the discussion leader should send me 8-12 proposed discussion questions and a list of terms/concepts (with definitions) that are important for understanding the text. I will provide feedback and suggestions in time for you to make changes before the class meets. Some questions should be factual, asking fellow students to summarize main point(s) of the reading or to ponder the usage of key terms/concepts. The others should be open-ended, asking students to share their interpretations and opinions of the reading. Your grade for this assignment will be based half on the questions and definitions that you prepare and half on your facilitation of the discussion. More guidance for this assignment will be provided in class.
* Contributions to Classroom Community (5%): All students are required to make regular, sustained, thoughtful contributions to class discussions and to contribute to building a classroom culture that is respectful, stimulating, and supportive.
* Comparative Study of Community Engagement (40%): The first writing assignment, due February 27, is to be a comparative analysis of at least two (and no more than four) examples of community engagement in an area of science or technological development. Papers must clearly identify the logic and dimensions of the comparison. For example, two examples may be compared because have notable similarities, or because their differences are theoretically interesting. Each case study must be well-researched using primary and secondary (when available) sources, and papers must also use existing research and theory to provide an analytic frame for the comparison. The maximum length (excluding references) is 5,000 words. One-fourth of this grade will be based on a short presentation to the class on February 27.
* Proposal for a Research Project Involving Community Engagement (40%): The second writing assignment, due April 29, is a proposal for a research project (relevant to each student's professional aspirations) that involves some form of community engagement. This paper should take the form of a standard research proposal, including the following sections: Overview and Objectives; Background (context about the case or topic you are studying); Preliminary Research (description of research already completed); Literature Review (this is commonly organized around the research questions introduced in the Overview and Objectives section); Research Methods (includes subsections describing the study design, data collection, and data analysis); Schedule of Research; Preparation of the Researcher; Feasibility of the Study; and Dissemination of the Findings and Broader Impact. The maximum length of this document is 5,000 words, excluding references. One-fourth of this grade will be based on a public presentation related to this project during Earth Week (April 20-24), which could take the form of a poster, zine, performance, or other broadly accessible expression of your ideas.

**Expectations for Writing:** All assignments should be typed, double-spaced, 12 point font, Times New Roman, with standard one-inch margins. References should be cited using Chicago Author-Date Style.

Contemporary standards of language use encourage gender-neutral language. Male-gender pronouns or words like “man” to refer to everyone are not empirically accurate. Your writing should use gender-neutral language.

Even experienced writers are urged to take advantage of the research and writing assistance resources available on this campus. https://www.commd.rpi.edu/

**Guidelines for Discussion:** Class meetings are primarily discussion-based. To make this effective for everyone, we must all adhere to the following guidelines.

* The purpose of the seminar is not to debate or prove a point but to more deeply understand what the authors are trying to express in the texts.
* Talk to each other, not just to the discussion leader or professor.
* Listen and respond to other statements before introducing a new idea.
* Refer to evidence from the text to support your ideas.
* Ask questions if you do not understand what someone has said, or you can paraphrase what another student has said for clarification (“I think you said this; is that right?”).
* Don’t “put down” the ideas of another student. Without judging the student you disagree with, state your alternate interpretation or ask a follow-up question to help probe or clarify an idea.
* Effective statements or questions to use in discussion:
	+ Where does that idea come from in the text?
	+ What does this word or phrase mean?
	+ Can you say that in another way?
	+ Is this what you mean to say...?
	+ What do you think the author is trying to say?
	+ What else could that mean?
* Pay attention to your “airtime”—how much you have spoken in relation to other students.
* Don’t interrupt.

**Academic Integrity:** Student-teacher relationships are built on trust. Students must trust that teachers have made appropriate decisions about the structure and content of courses they teach, and teachers must trust that assignments that students turn in are their own. Acts that violate this trust undermine the educational process. Any acts of plagiarism will have grave consequences. The Rensselaer Handbook of Student Rights and Responsibilities defines various forms of academic dishonesty and you should make yourself familiar with these. In this class, all individual assignments that are turned in for a grade must represent the student’s own work. Any instances of plagiarism will result in a failing grade for the assignment. Repeated instances of academic dishonesty will be grounds for failing the course. Plagiarism includes purchasing term papers; copying or handing in the writing of another student (current or former); using sentences verbatim from a published source without appropriate referencing (when in doubt, cite the source); and presenting as one’s own the detailed argument of a published source. “Recycling” papers written in other courses is also forbidden.

**Grade Disputes:** *The Rensselaer Handbook* provides specific procedures by which a student may appeal a grade. You should speak to the professor before initiating an appeal. If this does not lead to satisfactory resolution, you have the option of appealing your grade by writing to the head of the STS Department no later than 10 days after your grade has been posted.

**Course Schedule**

**Unit I: Engaging People in Research**

January 16 - Science Shops and Campus Engagement Initiatives

We begin this course with an examination of "science shops." Science shops provide independent participatory research support in response to concerns experienced by civil society. They are typically affiliated with universities but may also be run by independent non-profit organizations. Science shops were first established in the Netherlands in the 1970s. They gained attention in the United States in the 1990s, as STS scholars such as Richard Sclove worked to facilitate public participation in scientific research and decisions about technology. As you read the first four texts listed below, reflect on the relationship between research institutions (such as RPI) and organizations of civil society (such as neighborhood groups or environmental activists) that have research needs. How do science shops intervene in and structure this relationship? Then read the final text, which is a broader overview of "engaged research" taking place at universities in Ireland. Compare the practices described in that text to your assumptions about universities and academic research. Which of these activities would you like to emulate at some point in your career? What are the institutional conditions (e.g. policies, funding programs, academic norms) that enable these research activities in Ireland?

Roush, Wade. 1996. “U.S. Joins ‘Science Shop’ Movement.” *Science* 273 (August 2): 572–73.

Sclove, Richard. 1997. “Research by the People, for the People.” *Futures* 29 (6): 541–49.

Wachelder, Joseph. 2003. “Democratizing Science: Various Routes and Visions of Dutch Science Shops.” *Science Technology and Human Values* 28 (2): 244–73. https://doi.org/10.1177/0162243902250906.

Beunen, Raoul, Gerard Straver, Martijn Duineveld, Roel During, and Albert Aalvanger. 2012. “Reflexivity in Performative Science Shop Projects.” *Gateways: International Journal of Community Research and Engagement* 5: 135–51.

CampusEngage. 2017. “Engaged Research: Society & Higher Education Addressing Grand Societal Challenges Together.” https://doi.org/10.1002/9781119225898.ch12.

*Supplemental Materials:*

Throughout this syllabus, I am suggesting additional readings that will help you research and write the two assigned course papers. These include longer reports that provide numerous case studies (which you might choose to write about in your first paper). Beyond the listed supplemental materials, I also encourage you to track down sources cited in the assigned readings, particularly those that provide theoretical frameworks for community-engaged research. Those theoretical frameworks will provide needed structure for your course papers.

Sclove, Richard E., Madeleine L. Scammell, and Breena Holland. 1998. “Community-Based Research in the United States: An Introductory Reconnaissance, Including Twelve Organizational Case Studies and Comparison with the Dutch Science Shops and the Mainstream American Research System.” Amherst, MA. https://doi.org/10.1017/CBO9781107415324.004.

Living Knowledge (website with tons of resources): https://www.livingknowledge.org/ (see especially the Toolbox)

January 23 - Theories and Traditions of Participatory Research

This week, you are invited to explore the history of community-engaged research and the intellectual and activist traditions that have informed it. As you read these texts, create a diagram (such as a concept map) to help you organize and find relationships among the various strands of thought. Why is it important to know about these distinctive traditions and perspectives? How do you think that identifying with one set of roots or another might shape how one practices community-engaged research?

Gaventa, John, and Andrea Cornwall. 2006. “Challenging the Boundaries of the Possible: Participation, Knowledge and Power.” *IDS Bulletin* 37 (6): 122–28. https://doi.org/10.1111/j.1759-5436.2006.tb00329.x.

Cochran, Patricia A.L., Catherine A. Marshall, Carmen Garcia-Downing, Elizabeth Kendall, Doris Cook, Laurie McCubbin, and Reva Mariah S. Gover. 2008. “Indigenous Ways of Knowing: Implications for Participatory Research and Community.” *American Journal of Public Health* 98 (1): 22–27. https://doi.org/10.2105/AJPH.2006.093641.

Frisby, Wendy, Patricia Maguire, and Colleen Reid. 2009. “The ‘f’ Word Has Everything to Do with It: How Feminist Theories Inform Action Research.” *Action Research* 7 (1): 13–29. https://doi.org/10.1177/1476750308099595.

Torre, María Elena, and Michelle Fine. 2011. “A Wrinkle in Time: Tracing a Legacy of Public Science through Community Self-Surveys and Participatory Action Research.” *Journal of Social Issues* 67 (1): 106–21. https://doi.org/10.1111/j.1540-4560.2010.01686.x.

Wallerstein, Nina, and Bonnie Duran. 2017. “The Theoretical, Historical, and Practice Roots of CBPR.” In *Community Based Participatory Research for Health: Advancing Social and Health Equity*, edited by Nina Wallerstein, Bonnie Duran, John G. Oetzel, and Meredith Minkler, 25–46. John Wiley & Sons, Ltd.

*Supplemental Materials:*

Hall, Budd L. 1992. “From Margins to Center? The Development and Purpose of Participatory Research.” *The American Sociologist*, no. Winter: 15–28.

Appadurai, Arjun. 2006. “The Right to Research.” *Globalisation, Societies and Education* 4 (2): 167–77. https://doi.org/10.1080/14767720600750696.

January 30 - Participatory Action Research

Greenwood, Davydd J., William Foote Whyte, and Ira Harkavy. 1993. “Participatory Action Research as a Process and as a Goal.” *Human Relations* 46 (2): 175–92.

Stoecker, Randy. 2012. “Community-Based Research and the Two Forms of Social Change.” *Journal of Rural Social Sciences* 27 (2): 83–98.

Janes, Julia E. 2016. “Democratic Encounters? Epistemic Privilege, Power, and Community-Based Participatory Action Research.” *Action Research* 14 (1): 72–87. https://doi.org/10.1177/1476750315579129.

Pain, Rachel, Geoff Whitman, David Milledge, and Lune Rivers Trust. n.d. “Participatory Action Research Toolkit: An Introduction to Using PAR as an Approach to Learning, Research and Action.”

Susskind, Lawrence, "What is PAR and Why Is It Important?" https://actionresearch.mit.edu/what-par [please also review other materials about PAR on this website]

*Supplemental Materials:*

Youth Participatory Action Research Hub: http://yparhub.berkeley.edu/

Public Science Project: https://publicscienceproject.org/

Feb. 6 - Community-Based Participatory (Health) Research

Minkler, Meredith. 2005. “Community-Based Research Partnerships: Challenges and Opportunities.” *Journal of Urban Health* 82 (SUPPL. 2): 3–12. https://doi.org/10.1093/jurban/jti034.

Bidwell, David. 2009. “Is Community-Based Participatory Research Postnormal Science?” *Science Technology and Human Values* 34 (6): 741–61. https://doi.org/10.1177/0162243909340262.

Cordner, Alissa, David Ciplet, Phil Brown, and Rachel Morello-Frosch. 2012. “Reflexive Research Ethics for Environmental Health and Justice: Academics and Movement-Building.” *Social Movement Studies* 11 (2): 161–76. https://doi.org/10.1038/jid.2014.371.

Stanton, Christine Rogers. 2014. “Crossing Methodological Borders: Decolonizing Community-Based Participatory Research.” *Qualitative Inquiry* 20 (5): 573–83. https://doi.org/10.1177/1077800413505541.

Allen, Barbara L., Johanna Lees, Alison K. Cohen, and Maxime Jeanjean. 2019. “Collaborative Workshops for Community Meaning-Making and Data Analyses: How Focus Groups Strengthen Data by Enhancing Understanding and Promoting Use.” *International Journal of Environmental Research and Public Health* 16 (18). https://doi.org/10.3390/ijerph16183352.

Scripps Transnslational Science Institute, and Scripps Whittier Diabetes Institute. n.d. “Toolbox for Conducting Community-Engaged Research.”

*Supplemental Materials:*

Minkler, Meredith, Victoria Breckwith Vasquez, Charlotte Chang, Jenesse Miller, Victor Rubin, Angela Glover Blackwell, Mildred Thompson, Rebecca Flournoy, and Judith Bell. n.d. “Promoting Healthy Public Policy through Community-Based Participatory Research: Ten Case Studies.”

Centers for Disease Control and Prevention (CDC). 2011. “Principles of Community Engagement, Second Edition.” http://www.atsdr.cdc.gov/communityengagement/.

Feb. 20 - Citizen Science

*Science by the People: Participation, Power, and the Politics of Environmental Knowledge* by Aya H. Kimura and Abby Kinchy (Rutgers University Press, 2019)

*Supplemental Materials:*

Many relevant resources are listed in the appendix of *Science by the People*

Civic Laboratory for Environmental Action Research (CLEAR): https://civiclaboratory.nl/projects/

Liboiron, Max, "The Power (Relations) of Citizen Science," https://civiclaboratory.nl/2019/03/19/the-power-relations-of-citizen-science/

Feb. 13 - No class meeting [Abby at SUNY ESF]

Feb. 27 - Presentations: comparative examples of community-engaged research

March 5 - Engaged STS Research

*Fractivism: Corporate Bodies and Chemical Bonds* by Sara Ann Wylie (Duke University Press, 2018)

Thomas, Deborah. 2017. “Living with Oil and Gas and Practicing Community Conducted Science.” *Engaging Science, Technology, and Society* 3 (0): 613–18. https://doi.org/10.17351/ests2017.131.

*Supplemental Materials:*

Wylie, Sara, Nick Shapiro, and Max Liboiron. 2017. “Making and Doing Politics Through Grassroots Scientific Research on the Energy and Petrochemical Industries.” *Engaging Science, Technology, and Society* 3: 393. https://doi.org/10.17351/ests2017.134.

Fair Tech Collective: https://www.fairtechcollective.org/

Public Lab: https://publiclab.org/

March 12 - Spring Break

**Unit II: Engaging People in Governance**

March 19 - Critical Analysis of Deliberative Forums

Callison, Candis. 2014. "Epilogue" in *How Climate Change Comes to Matter*. Duke University Press.

Guston, David H. 1999. “Evaluating the First U.S. Consensus Conference: The Impact of the Citizens’ Panel on Telecommunications and the Future of Democracy.” *Science Technology and Human Values* 24 (4): 451–82. https://doi.org/10.1177/016224399902400402.

Irwin, Alan. 2006. “The Politics of Talk: Coming to Terms with the ‘new’ Scientific Governance.” *Social Studies of Science* 36 (2): 299–320. https://doi.org/10.1177/0306312706053350.

Felt, Ulrike, and Maximilian Fochler. 2010. “Machineries for Making Publics: Inscribing and De-Scribing Publics in Public Engagement.” *Minerva* 48 (3): 219–38. https://doi.org/10.1007/s11024-010-9155-x.

Delgado, Ana, Kamilla Lein Kjølberg, and Fern Wickson. 2011. “Public Engagement Coming of Age: From Theory to Practice in STS Encounters with Nanotechnology.” *Public Understanding of Science* 20 (6): 826–45. https://doi.org/10.1177/0963662510363054.

*Supplemental Materials:*

Fiorino, Daniel J. 1990. “Citizen Participation and Environmental Risk: A Survey of Institutional Mechanisms.” *Science, Technology & Human Values* 15 (2): 226–43. https://doi.org/10.1177/016224399001500204.

Sclove, Richard E. 2010. *Reinventing Technology Assessment: A 21st Century Model*. The Woodrow Wilson International Center for Scholars.

Loka Institute - World Wide Views: http://www.loka.org/WorldWideViews.html

Delborne, Jason, Jen Schneider, Ravtosh Bal, Susan Cozzens, and Richard Worthington. 2013. “Policy Pathways, Policy Networks, and Citizen Deliberation: Disseminating the Results of World Wide Views on Global Warming in the USA.” Science and Public Policy 40 (3): 378–92. https://doi.org/10.1093/scipol/scs124.

March 26 - STS Experiments in Deliberation

Rusike, Elijah. 2005. “Exploring Food and Farming Futures in Zimbabwe.” In *Science and Citizens: Globalization and the Challenge of Engagement*, edited by Melissa Leach, Ian Scoones, and Brian Wynne, 249–55. Zed Books.

Phadke, Roopali, Christie Manning, and Samantha Burlager. 2015. “Making It Personal: Diversity and Deliberation in Climate Adaptation Planning.” *Climate Risk Management* 9: 62–76. https://doi.org/10.1016/j.crm.2015.06.005.

Kleinman, Daniel Lee, Jason A. Delborne, and Ashley A. Anderson. 2011. “Engaging Citizens: The High Cost of Citizen Participation in High Technology.” *Public Understanding of Science* 20 (2): 221–40. https://doi.org/10.1177/0963662509347137.

Tomblin, David, Zachary Pirtle, Mahmud Farooque, David Sittenfeld, Erin Mahoney, Rick Worthington, Gretchen Gano, et al. 2017. “Integrating Public Deliberation into Engineering Systems: Participatory Technology Assessment of NASA’s Asteroid Redirect Mission.” *Astropolitics* 15 (2): 141–66. https://doi.org/10.1080/14777622.2017.1340823.

Kleinman, Daniel Lee, and Sainath Suryanarayanan. 2019. “Pollinating Collaboration: Diverse Stakeholders’ Efforts to Build Experiments in the Wake of the Honey Bee Crisis.” *Science Technology and Human Values*, 1–26. https://doi.org/10.1177/0162243919865962.

*Supplemental Materials:*

Expert and Citizen Assessment of Science and Technology: ecastnetwork.org

Wakeford, Tom, and Michel Pimbert. 2016. “Prajateerpu, Power and Knowledge: The Politics of Participatory Action Research in Development Part 2. Analysis, Reflections and Implications.” *Action Research* https://doi.org/10.1177/1476750304041066.

Soneryd, Linda, and Nina Amelung. 2016. “Translating Participation: Scenario Workshops and Citizens’ Juries across Situations and Contexts.” In *Knowing Governance: The Epistemic Construction of Political Order*, edited by Jan-Peter Voß and Richard Freeman, 155–74. Palgrave https://doi.org/10.1057/9781137514509\_7.

April 2 - Collaborative Action and Reflection

*Digital Dead End: Fighting for Social Justice in the Information Age* by Virginia Eubanks (The MIT Press, 2012)

**Unit III: Engaging People in Design**

April 9 - Participatory Design

Manzini, Ezio, and Francesca Rizzo. 2011. “Small Projects/Large Changes: Participatory Design as an Open Participated Process.” *CoDesign* 7 (3–4): 199–215. https://doi.org/10.1080/15710882.2011.630472.

Björgvinsson, Erling, Pelle Ehn, and Per Anders Hillgren. 2012. “Agonistic Participatory Design: Working with Marginalised Social Movements.” *CoDesign* 8 (2–3): 127–44. https://doi.org/10.1080/15710882.2012.672577.

LeDantec, Christopher A., and Carl DiSalvo. 2013. “Infrastructuring and the Formation of Publics in Participatory Design.” *Social Studies of Science* 43 (2): 241–64. https://doi.org/10.1177/0306312712471581.

Forlano, Laura, and Anijo Mathew. 2014. “From Design Fiction to Design Friction: Speculative and Participatory Design of Values-Embedded Urban Technology.” *Journal of Urban Technology* 21 (4): 7–24. https://doi.org/10.1080/10630732.2014.971525.

Costanza-Chock, Sasha. 2018. “Design Justice: Towards an Intersectional Feminist Framework for Design Theory and Practice.” *DRS2018: Catalyst*. https://doi.org/10.21606/drs.2018.679.

*Supplemental Materials:*

Asaro, Peter M. 2000. “Transforming Society by Transforming Technology: The Science and Politics of Participatory Design.” *Accounting, Management and Information Technologies* 10 (4): 257–90. https://doi.org/10.1016/S0959-8022(00)00004-7. [For a history of the strands of work that came together to be known as Participatory Design]

April 16 - Maker Spaces and "Peer Production"

Holman, Will. 2015. “Makerspace: Towards a New Civic Infrastructure.” *Places*, no. November.

Kohtala, Cindy. 2017. “Making ‘Making’ Critical: How Sustainability Is Constituted in Fab Lab Ideology.” *Design Journal* 20 (3): 375–94. https://doi.org/10.1080/14606925.2016.1261504.

Davies, Sarah R. 2018. “Characterizing Hacking: Mundane Engagement in US Hacker and Makerspaces.” *Science Technology and Human Values* 43 (2): 171–97. https://doi.org/10.1177/0162243917703464.

Foster, Ellen K. 2019. “Claims of Equity and Expertise: Feminist Interventions in the Design of DIY Communities and Cultures.” *Design Issues* 35 (4): 33–41. https://doi.org/10.1162/desi\_a\_00562.

*Supplemental Materials:*

Journal of Peer Production http://peerproduction.net/issues/

April 23 - Designing Data Justice

*\* This is Earth Week, when you will give a public presentation of your proposed project*

Elwood, Sarah. 2006. “Critical Issues in Participatory GIS: Deconstructions, Reconstructions, and New Research Directions.” *Transactions in GIS* 10 (5): 693–708. https://doi.org/10.1111/j.1467-9671.2006.01023.x.

Jalbert, Kirk, Samantha Malone Rubright, and Karen Edelstein. 2017. “The Civic Informatics of FracTracker Alliance: Working with Communities to Understand the Unconventional Oil and Gas Industry.” *Engaging Science, Technology, and Society* 3: 528. https://doi.org/10.17351/ests2017.128.

Walker, Dawn, Eric Nost, Aaron Lemelin, Rebecca Lave, and Lindsey Dillon. 2018. “Practicing Environmental Data Justice: From DataRescue to Data Together.” *Geo: Geography and Environment* 5 (2): e00061. https://doi.org/10.1002/geo2.61.

Meng, Amanda, and Carl DiSalvo. 2018. “Grassroots Resource Mobilization through Counter-Data Action.” *Big Data and Society* 5 (2): 1–12. https://doi.org/10.1177/2053951718796862.

*Supplemental Materials:*

Environmental Data Justice Syllabus. Check out the list of inspiring projects. https://docs.google.com/document/d/1O7ytnzXWFkluiYE4Pulo\_mCHs9jdNpPm8hw83aLU2pg/edit#heading=h.p7r8t8xelqcr

List of Tech and Social Justice Initiatives: https://www.ruhabenjamin.com/resources

April 29 - Reflections and Plans

*\* proposals for a community-engaged project are due*