ANNE E. BOWSER

Woodrow Wilson International Center for Scholars
1300 Pennsylvania Ave. NW
Washington, DC 20010
anne.bowser@wilsoncenter.org || 202-691-4031

EDUCATION

University of Maryland, College Park, MD

2011-2015: PhD*,* Information Studies

Dissertation: *Cooperative Design, Cooperative Science: Designing Floracaching to Motivate New Citizen Science Volunteers*.
My dissertation research explored how Floracaching, a gamified mobile application for citizen science biodiversity data collection, could be designed to motivate contributions from millennial college students. Through this work I developed and refined cooperative design (co-design) techniques while unpacking the motivations for millennial college students to share data through citizen science.

2009-2011: MS*,* Information Management

Guilford College, Greensboro, NC

2004- 2008: BS, Psychology and German Literature

CURRENT APPOINTMENTS

Woodrow Wilson International Center for Scholars, Washington, DC

2015- Present: Co-Director*,* Commons Lab; Senior Program Associate, Science and Technology Innovation Program (STIP),
- Work with the Co-Director, Biology Collectives Project, to jointly develop STIP's strategic vision for research and programming.
- Hire and manage staff, interns, and contractors.
- Manage $500,000+, working with funders and internal financial management office on grant management and reporting.
- Support program sustainability by writing grant proposals to federal agencies and private foundations, and by founding a corporate advisory board.
- Collaborate with federal agencies and private sector partners to advance the use of citizen science as a public policy tool.
- Conduct research on citizen science and other forms of open innovation.
- Write policy guidance on topics including citizen science, open data, artificial intelligence, and bilateral science and technology innovation cooperation.

2014-2015: Program Associate*,* Science and Technology Innovation Program
2013-2014: Research Assistant, Science and Technology Innovation Program

PUBLICATIONS

Refereed Journal Papers

1. Eitzel, M., Cappadonna, J., Santos-Lang, C., Duerr, R., Virapongse, A., West, S., Kyba, C., **Bowser, A.**, Cooper, C., Sforzi, A., Metcalfe, A., Harris, E., Thiel, M., Haklay, M., Ponciano, L., Roche, J., Ceccaroni, L., Shilling, F., Dorler, D., Heigl, F., Kiessling, T., Davis, B. & Jiang, Q. 2017. Citizen science terminology matters: Exploring key terms. *Citizen Science: Theory and Practice, 2* (1), p.2.

2. Kissling, D., Ahumada, J., **Bowser, A.**, Fernandez, M., Fernandez, N., Alonso Garcia, E., Guralnick, R., Isaac, N., Kelling, S., Los, W., McRae, L., Mihoub, J., Obst, M., Santamaria, M., Skidmore, A., Williams, K., Agosti, D., Amariles, D., Arvanitidies, C., Bastin, L., De Leo, F., Egloff, W., Elith, J., Hobern, D., Martin, D., Pereira, H., Pesole, G., Petersell, J., Saarenmaa, H., Schigel, D., Schmeller, D., Segata, N., Turak, E., Uhlir, P., Wee, B. & Hardisty, A. (2017). Building essential biodiversity variables (EBVs) of species distribution and abundance at a global scale. *Biological Reviews,* Accepted.

3. Schmeller, D., Mihoub, J., **Bowser, A**., Arvantidis, C., Costello, M., Fernandez, M., Geller, G., Hobern, D., Kissling, W.D., Regan, E., Saaremaa, H., Turak, E. Y Isaac, N. (2017). An operational definition of Essential Biodiversity Variables. *Biodiversity Conservation, X*, XX, doi:10.1007/s10531-017-1386-9

4. **Bowser, A.** & Wiggins, A. (2015). Privacy in participatory research: Advancing policy to support human computation. *Human Computation Journal, 2*, 1, 19-44.

5. Himelboim, I., Hansen, D. & **Bowser, A.** (2013). Playing in the same Twitter network: Political information seeking in the 2010 US Gubernatorial Elections. *Information, Communication, and Society, 16*, 9, 1373-1396.

Refereed Conference Papers

1. **Bowser, A.,** Shilton, K. & Preece, J. (2017). Accounting for privacy in citizen science: Ethical research in a context of openness. In *Proceedings of the 2017 ACM Conference on Computer Supported Cooperative Work and Social Computing (CSCW '17).* New York: ACM Press, pp. 2124-2136.

2. **Bowser, A.** & Tsai, J. (2015). Supporting ethical web research: A new research ethics review. In *Proceedings of the 24th International World Wide Web Conference (WWW '15)*, New York, ACM Press, pp. 151-161.

3. **Bowser, A.**, Haimson, O., Melcer, E. & Churchill, E. F. (2015). On Vintage Values: The Experience of secondhand fashion reacquisition. In *Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems (CHI '15),* New York, ACM Press, pp. 897-906.

4. Haimson, O., **Bowser, A.**, Melcer, E. & Churchill, E. F. (2015). Online inspiration and exploration for identity reinvention. In *Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems (CHI '15),* New York, ACM Press, pp. 3809-3818.

5. **Bowser, A.**, He, Y., Rotman, D., Preece, J., Hansen, D., Boston, C., & Hammock, J. (2014). Motivating participation in citizen science. In *Proc. Of the European Conference on Social Media (ECSM '14),* Brighton, University of Brighton, pp. 64-71.

6. Rotman, D., Hammock, J., Preece, J., Hansen, D., Boston, C., **Bowser, A.** & He, Y. (2014). Motivations affecting initial and long-term participation in citizen science. In *Proceedings of Conference 2014 (iConference '14),* Chicago, IDEALS, pp. 110-124.

7. **Bowser, A.,** Hansen, D., He, Y., Boston, C., Reid, M., Gunnell, L. & Preece, J. (2013). Using gamification to inspire new citizen science volunteers. In *CHI Play '13: Proceedings of the First International Conference on Gameful Design, Research, and Applications,* New York, ACM Press, pp. 18-25.

8. **Bowser, A.**, Hansen, D., Raphael, J., Reid, M., He, Y., Rotman, D. & Preece, J. (2013). Prototyping in PLACE: A scalable approach to developing location-based apps and games. In *Proceedings of the 31st Annual ACM Conference on Human Factors in Computing Systems (CHI '13),* New York, ACM Press, pp. 1519-1528.

Refereed Conference Courses, Posters, and Workshops

1. Churchill, E., Preece, J. & **Bowser, A.** (2014). Developing a living HCI curriculum to support a global community. In *CHI '14 Extended Abstracts on Human Factors in Computing Systems,* New York, ACM Press, 135-138 [Workshop].

2. **Bowser, A.,** Hansen, D., Preece, J., He, Y., Boston, C. & Hammock, J. (2014). Gamifying citizen science: A study of two user groups. In *CSCW Companion '14: Proceedings of the companion publication of the 17th ACM conference on Computer supported cooperative work & social computing,* New York, ACM Press, pp. 137-140 [Abstract].

3. He, Y., Preece, J., Boston, C., **Bowser, A.**, Hanson, D. & Hammock, J. (2014). The effects of individualized feedback on college students' contributions to citizen science. In *CSCW Companion '14: Proceedings of the companion publication of the 17th ACM conference on Computer supported cooperative work & social computing,* New York, ACM Press, pp. 165-168 [Abstract].

4. Rotman, D., Hammock, J., Preece, J., Boston, C., Hansen, D., **Bowser, A.** & He, Y. (2014). Does motivation in citizen science change with time and culture? In *CSCW Companion '14: Proceedings of the companion publication of the 17th ACM conference on Computer supported cooperative work & social computing,* New York, ACM Press, pp. 229-232 [Abstract].

5. Preece, J. & **Bowser, A.** (2014). What HCI can do for citizen science. In *CHI '14 Extended Abstracts on Human Factors in Computing Systems.* New York, ACM Press, pp.1059-1060 [Course].

Refereed Abstracts

1. **Bowser, A.** (2017). Mobilizing public participation in science, technology, and policy—Understanding the motivations of citizen science volunteers. *National Environmental Monitoring Conference,* Washington, DC.

2. **Bowser, A.,** Martin, V., Simonis, I., Lowe, R. & Scarpino, R. (2017). Citizen science data interoperability: What is it, and why does it matter? *Citizen Science 2017,* St.Paul, MN.

3. Ceccaroni, L. & **Bowser, A.** (2017). Instant Gratification Citizen Science. *Citizen Science 2017,* St.Paul, MN.

4. **Bowser, A.** & Wiggins, A. (2016). A typology of citizen science technologies and tools. *Annual Meeting of the Society for the Social Studies of Science*, Barcelona, Spain.

5. Newman, G., Shirk, J., Cavelier, D. & **Bowser, A.** (2015). Introducing PPSR-Core: Standardizing metadata to support a growing community. *Australian Citizen Science Conference,* Canberra, Australia.

6. Scassa, T. Chung, H., **Bowser, A.** & Tyson, E. (2015). Understanding Intellectual Property in Citizen Science. *Citizen Science 2015,* San Jose, CA.

7. **Bowser, A.**, Shilton, K. & Preece, J. (2015). Privacy in Citizen Science: An Emerging Concern for Research and Practice. *Citizen Science 2015,* San Jose, CA.

8. Shanley, L. & **Bowser, A.** (2014). Citizen Science: What's Policy Got to Do With It? *Citizen Cyberscience Summit,* London, UK.

Invited Talks

1. **Bowser, A.** (2017, January). Citizen Science and Privacy. Presented to the U.S. Department of State's Chinese Delegation, Washington, DC.

2. **Bowser, A**. (2016, October). Research and Other Forms of Capacity Building to Support Citizen Science. Presented to the University of Maryland Center for Advanced Studies of Communities and Information (CASCI), College Park, MD.

3. Gustetic, J., Olson, K. & **Bowser, A.** (2016, May). CitizenScience.gov: Institutionalize New Initiatives through Communities. Presented to the White House Office of Science and Technology Policy (OSTP), Washington, DC.

4. Roman, L. & **Bowser, A**. (2016, February). Citizen Science Data Quality. Presented to the White House Office of Science and Technology Policy (OSTP), Washington, DC.

5. **Bowser, A.** (2015, December). ELSI Issues in Citizen Science. Presented to the Environmental Protection Agency's National Advisory Council on Environmental Policy and Technology (NACEPT), Washington, DC.

6. **Bowser, A.**, Hansen, D. & Preece, J. (2015, November). Lessons from Floracaching. Presented in *Countdown 2030: Millennial Visions for Future Prosperity,* London, UK.

7. **Bowser, A.** (2015, July). Synergistic Citizen Science Opportunities. Presented to The European Citizen Science Association's Board of Directors, Virtual.

8. Sui. D. & **Bowser, A.** (2015, March). Volunteered Geographic Information and Citizen Science. Presented to the US Department of State, Washington, DC.

9. **Bowser, A.** (2015, March). Celebrating Citizen Science: Public Participation in Science and Technology. Presented to Chesapeake Bay STARR, Annapolis, MD.

10. Tyson, E. & **Bowser, A**. (2014, December). Supporting a Federal Community of Citizen Science. Presented to the Bureau of Land Management (BLM), Washington, DC.

11. **Bowser, A**. (2014, December). Internet Ethics. Guest lecture for INFM 600: Information Environments. University of Maryland, College Park, MD.

12. **Bowser, A**. & Shanley, L. (2014, February). Privacy, policy, and citizen science. Guest lecture for INST 641: Policy Issues in Digital Curation. University of Maryland, College Park, MD.

13. Shanley, L. & **Bowser, A**. (2013, December). New Visions for Citizen Science. Presented to the White House National Science and Technology Council U.S. Group on Earth Observations, Washington, DC.

Book Chapters

1. **Bowser, A.,** Wiggins, A. & Tyson, E. (2017). Legal, Policy, and Ethical Considerations of Citizen Science. To appear in Lepczyk, C., Vargo, T. & Boyle, O., Eds., *Citizen Science in Ecology and Conservation: A Practitioner's Guide*. Berkeley: University of California Press, In Press.

2. Ceccaroni, L., **Bowser, A.** & Brenton, P. (2017). Civic education and citizen science: Definitions, categories, knowledge representation. In Ceccaroni, L. & Piera, J., Eds., *Analyzing the Role of Citizen Science in Modern Research.* Hershey, Pennsylvania: IGI Global, pp. 1-21.

Professional Publications

1. Churchill, E., **Bowser, A.** & Preece, J. (2016). The future of HCI education: A flexible, global, living curriculum. *ACM Interactions, 23,* 2, pp. 70-73.

2. Tyson, E. & **Bowser, A**. (2015). *DC Science Hack Day at the Wilson Center.* Woodrow Wilson International Center for Scholars: Washington, DC.

3. **Bowser, A.**, Wiggins, A., Shanley, L., Preece, J. & Henderson, S. (2014). Sharing data while protecting privacy in citizen science. *ACM Interactions*, *21,* 1, pp. 70-73.

4. Churchill, E., **Bowser, A.** & Preece, J. (2013). Teaching and Learning Human-Computer Interaction: Past, Present, Future. *ACM Interactions, 20,* 2, pp. 44-53.

5. **Bowser, A.** & Shanley, L. (2013). *New Visions In Citizen Science.* Woodrow Wilson International Center for Scholars: Washington, DC.

6. **Bowser, A.,** Wiggins, A., & Stevenson, R. (2013). Data Policies for Public Participation in Scientific Research: A Primer. DataONE: Albuquerque, NM.

Research Studies Directed and Edited

1. Goebel, C., Ramirez-Andreotta, M. & Martin, V. (2017). *International Citizen Science Stakeholder Analysis.* Woodrow Wilson International Center for Scholars: Washington DC.

2. Tyson, E. & Rejeski, D. (2016). *Strategic Recommendations for Federal Citizen Science and Crowdsourcing.* Woodrow Wilson International Center for Scholars: Washington DC.

3. Gellman, R. (2015). *Crowdsourcing, Citizen Science, and the Law: Legal Issues Affecting Federal Agencies.* Woodrow Wilson International Center for Scholars: Washington DC.

4. Scassa, T. & Chung, H. (2015). *Managing Intellectual Property Rights in Citizen Science.* Woodrow Wilson International Center for Scholars: Washington DC.

FUNDRAISING

Alfred P. Sloan Foundation

Award: Citizen Science as a Public Policy Tool. PI: Anne Bowser. Amount: $500,000 (2016-2018).

National Science Foundation

Award #SES 0968546: EAGER: Privacy in Citizen Science: An Emerging Concern for Research and Practice. Co-PIs: Katie Shilton, Anne Bowser, Jennifer Preece. Amount: $179, 548 (2014 - 2016).

Travel Award to attend iConference in Berlin, Germany. Amount: $2,000 (2014).

SYNERGISTIC ACTIVITIES

Working Groups and Affiliations

2016- Present. Founder and Co-Chair, Citizen Science Domain Working Group, Open Geospatial Consortium.

2015- Present. External Faculty, Human Computation Institute.

2015- Present. Research Affiliate, SciStarter.

2015- Present. Member, Data, Tools, and Technology Working Group, European Citizen Science Association.

2014- Present. Founder and Co-Chair, International Data and Metadata Standardization Working Group, U.S. Citizen Science Association.

2014- Present. Member, Ethics Working Group, U.S. Citizen Science Association.

2014- Present. Member, Federal Community of Practice on Crowdsourcing and Citizen Science.

Formal Advisory Roles

2017-Present. Advisor, WeCureALZ. Participation supported by Bright Eyes Foundation.

2016-Present. Member, Board of Directors, U.S. Citizen Science Association.

2016-Present. Advisor, Flu Near You. Participation supported by Skoll Global Threats Fund.

2016-Present. Advisor, GLOBIS-B. Participation supported by the European Commission's Horizon 2020 Framework Programme.

2015-Present. Advisor, SciStarter 2.0. Participation supported by the National Science Foundation.

Review Panels

2017. Review panel, DOE, SBIR.

2016. Review panel, NASA, ROSES.

2014, 2015, 2016. Review panel, National Science Foundation, ERL.

Other Community Service

2016-Present. Mentor, Global Give Back Circle.

2015-2016. Tutor and Tester, For Love of Children (FLoC).

2014. Member, Faculty Search Committee, University of Maryland College of Information Studies.

2013-2014. Technology Curriculum Developer and Instructor, Holiday Park Senior Center.

2012- Present. Review for venues including *CHI*; *CSCW*; *HICSS*; *Mobile HCI*; *Biological Conservation; Bioscience*; *Citizen Science; Ecology & Society; Human Computation.*

PREVIOUS APPOINTMENTS

University of Maryland, College Park, MD

2011- 2015: *Graduate Researcher*, College of Information Studies.
- As PhD student, Co-PI and Graduate Researcher on project exploring privacy in citizen science.
- As PhD student, Graduate Researcher on project exploring the integration of human and machine systems for biodiversity data collection.

- As MS student, Graduate Researcher on project using social network analysis to analyze information sharing between biodiversity data repositories.

ACM SIG CHI, New York, NY

2011-2014: *Student Researcher,* Special Project on Human-Computer Interaction (HCI) education.
- Interviewed and surveyed 800+ SIGCHI community members to identify key topics, trends, and challenges in global HCI education.
- Shared research through annual reports for the ACM SIG CHI Executive Committee and publication in Interactions Magazine.
- Built community capacity by hosting annual roundtables and workshops, creating an online community, and seeding a digital library.

Microsoft Research Labs, Redmond, WA

2014: *Intern Research Scientist*
- Researched, designed, and evaluated an online Research Ethics Review board (REB) for Microsoft employees as substitute for a formal Institutional Review Board (IRB).
- Designed and evaluated ethnics training for computer science researchers.

eBay Research Labs, San Jose, CA

2014: *Intern Research Scientist*
- Led ethnographic research on consumer values by taking 14 men and women shopping at thrift and consignment stores.
- Created personas to inform the development of 2 eBay mobile prototypes.
- Research featured on eBay internal homepage and covered by Fast Company magazine.