

RACHEL CHAFFEE

Postdoctoral Research Fellow
American Museum of Natural History
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EDUCATION

- Ph.D. University of Rochester, Rochester, NY
Warner Graduate School of Education & Human Development
Doctor of Philosophy, Education & Human Development, 2016
Dissertation: *Reel science: An ethnographic study of girls' science identity development in and through film*. Advisor: April Luehmann
Graduate Certificate in Gender and Women's Studies
- M.A. State University of New York College at Brockport, Brockport, NY
Masters of English, 2006
- B.A. Roberts Wesleyan College, Rochester, NY
Bachelors of English, Communication minor, 2001

RESEARCH EXPERIENCE

Postdoctoral Research Fellow - American Museum of Natural History, New York, NY January 2017 - present

Responsible for all aspects of implementation of research studies, from leading meetings and design decisions, to design of instruments, data collection and reporting. Specifically, this includes:

Project oversight & leadership: Facilitate research meetings, ongoing communication, project timelines and deliverables across multiple institutions including AMNH PIs, partner PIs (SRI, CUNY, MIT), external evaluators (EDC, UPCLOSE), external data analysts (Collaborative Health Research), NSF advisory board members, and project team staff, including youth co-researchers.

Research design: Lead the development, pilot testing, revision and implementation of qualitative and quantitative research instruments; facilitate all data collection across multiple research sites (up to 24 sites); manage and support the cleaning, coding, and analysis of qualitative and quantitative data, including the development and revision of variables, codebooks, and a database for longitudinal research; write all IRB proposals, amendments and consent and assent forms, data sharing agreements, and security protocols.

Dissemination and development: Lead author manuscripts for publication, including literature reviews and conceptual and analytic memos; lead the development of proposals and presentations for stakeholder audiences, including local and national professional conferences; write annual NSF reports; develop and write social media campaigns for dissemination of research findings; co-author grant proposals, including the NSF Rapid, NSF SRMP Machine, and NSF EHR Staying in Science proposal.

*Research Studies:

- NSF Grant No. 2049022 - “Preparing High School Students for Careers in Machine Learning through Mentored Scientific Research.” July, 2021
- NSF Grant No. 2033515 - “RAPID: Supports and Challenges in an Educational Crisis: The Impact of the COVID-19 Pandemic on Youth STEM Pathways.” August 2020
- NSF Grant No. 1934039 - “Decoding Urban Ecosystems: Computational Thinking Integration in Middle School STEM (Decode-CT).” January 2020
- Institute of Museum & Library Services, Award # MA-10-19-0593-19 - “Next Generation Museum Conversations.” January 2020
- NSF Grant No. 1561637 - “Staying in Science: Examining the Pathways of Underrepresented Youth Mentored in Research.” September 2016

Research Manager & Program Facilitator - University of Rochester, Rochester, NY

July 2009 - June 2014

Responsible for the implementation and scaling-up of a longitudinal research study on young women’s participation and science identity development in an OST science documentary film-making club: NSF Grant No. 1114481 - “Full-Scale Development: Science STARS-Nurturing Urban Girls’ Identities Through Inquiry-Based Science.” Specifically, this included:

Project oversight & leadership: Developed and managed NSF programmatic research agenda, including the coordination of communication among PIs and NSF advisory board members; acted as liaison to Rochester City School District administration, staff, and faculty, local education and arts organizations, and youth’s families. Managed the scaling up of the Science STARS program to two additional sites in Michigan and Washington states.

Research design: Led the development, pilot testing, revision and implementation of qualitative and ethnographic research instruments; led team of doctoral and pre-service teacher researchers in qualitative methods of participant observation at multiple research sites; conducted qualitative and artifact-based analysis; managed and led the cleaning, coding, and analysis of qualitative data, including the development and revision of codebooks; wrote all IRB proposals, amendments and consent and assent forms, data sharing agreements, and security protocols. Supported the design and implementation of a female underrepresented minority undergraduate near-peer mentor program to support the development of the program and increase opportunities for urban youth mentorship in science.

Dissemination and development: Lead author manuscripts for publication, including literature reviews and conceptual and analytic memos; led the development of proposals and presentations for stakeholder audiences, including local and national professional conferences; wrote annual NSF reports and supported grant writing efforts.

Research Assistant - University of Rochester, Rochester, NY

August 2007 - May 2010

Responsible for supporting Principal Investigator in managing and conducting ethnographic fieldwork of engineers publishing productivity in academic settings. Specifically, this included:

Project oversight & leadership: Supported Principal Investigator in managing and conducting ethnographic fieldwork of engineers publishing productivity in academic settings; developed and led the research component of the study on women and engineering; trained new graduate

research assistants in research methods, including data collection and analysis and developing academic papers for conference presentations and manuscripts for publication.

Dissemination and development: Wrote extensive literature reviews, analysis of data, and findings for NSF proposals and presented findings at national and international conferences.

EVALUATION EXPERIENCE

City Bats Evaluation, Fall 2019 - present

Fordham University, New York, NY

Designing and implementing an evaluation to understand the impacts of an urban ecology curriculum on NYCDOE students' understanding, interest, and appreciation of urban ecology and the potential supports and obstacles teachers faced in implementing the curriculum. Designing and administering student surveys, conducting teacher interviews, analysis and written synthesis for reports.

National Astronomy Consortium (NAC) Evaluation, 2020 - present

National Astronomy Consortium

Analysis and synthesis of evaluation case study data to assess the degree to which the NAC is achieving its goals of supporting underrepresented college students into careers in science research, understanding science in industry, and mentoring students into careers that fit with their own strengths and interests. Includes

AstroComm NYC Program Evaluation, 2020 - present

American Museum of Natural History

Analysis and synthesis of evaluation case study data to assess the degree to which AstroCom NYC is achieving its goals of supporting underrepresented college students into careers in science research, understanding science in industry, and mentoring students into careers that fit with their own strengths and interests.

PROFESSIONAL EXPERIENCE

Director, Writing Center; Associate Director, University Writing Program

Rochester Institute of Technology, Rochester, NY

July 2014 –December 2016

Responsible for all aspects of program design and implementation, from hiring and training staff to program evaluation and teaching. Specifically, this included:

Specifically, this included:

Program oversight & leadership: Managed and coordinated all aspects of the daily operations of the Writing Center (WC), including online writing support, writing consultant schedules, and online scheduling systems; hired, trained, supervised, and evaluated a diverse staff of faculty and student writing consultants; designed and delivered on-going professional development to WC staff in the areas of disciplinary identity development and writing across disciplinary contexts; managed and supported connections between the Writing Commons, the University Writing Program, and the RIT colleges and programs; communicated with all faculty, staff, undergraduate and graduate students regarding services offered by the Writing Commons through multiple publicity strategies, including web, print, and social media.

Program evaluation: Oversaw collection of program data, conducted qualitative and quantitative analysis that supports the ongoing assessment of the program, and wrote mid-year and year-end reports; developed and evaluated WC policies, including guidelines for supporting a diverse student population (e.g. students speaking and writing in English as an additional language, Deaf and hard of hearing students, students on the autism spectrum, students from historically underrepresented groups).

Teaching: Designed and taught an advanced academic writing course on disciplinary identity development and literacy practices that provides undergraduate students in multiple disciplines opportunities to become WC writing consultants; designed and delivered writing support workshops for undergraduates and graduates.

**Coordinator, Writing Support Services, University of Rochester, Rochester, NY
July 2007 - May 2010**

Responsible for coordinating all aspects of the Writing Support Services (WSS) program under the direction of the program director. Specifically, this included:

Program oversight & leadership: Trained student writing consultants in writing and teaching workshops; developed and implemented writing workshops; oversaw the scheduling of consultants and staffing of writing workshops, including continued management of the online database and scheduling system; collaborated with administration to publicize WSS events and services through orientations and admissions events; managed incoming requests for collaboration and support from faculty and department chairs, including fostering collaboration opportunities across graduate schools and medical programs at the University of Rochester.

Program evaluation: Conducted ongoing observations and mentoring of consultant staff; reviewed student evaluations of consultants in order to provide individual and collective feedback and to identify areas for continuing development of consultants and the program; ensured content of WSS workshops and consulting resources were current and directly relevant to academic writing and research standards; supported program director in conducting annual programmatic reviews and writing annual reports.

TEACHING EXPERIENCE

**Director, Writing Center; Associate Director, University Writing Program
Rochester Institute of Technology, Rochester, NY**

July 2014 –December 2016

- *Writing Theory, Genre, and Practice: 2015, 2016, 2017:* Composition course focused on supporting students in developing skills to work as writing consultants in an academic support center, with emphasis on peer review.
- *Principles of Writing, 2015, 2016:* Composition course focused on developing college-level writing from prewriting to editing, with emphasis on the revision process.

**Adjunct Professor, Warner School of Education, University of Rochester, Rochester, NY
2007-2014**

- *Integrating Science and Literacy, Summer, 2013:* Prepared science teachers to effectively use reading, writing, and other forms of literacy to enhance science instruction.

- *Academic Writing for Educators, 2008, 2009*: Prepared graduate students to improve academic writing and develop strategies for understanding and writing graduate writing genres (e.g. literature review, research papers, comprehensive exams, proposals, dissertations).
- *Graduate Seminar: Interview and Focus Group Techniques, 2012, 2013*: Introduces the methods involved in conducting and writing analysis of interviews and focus groups.

**Adjunct Professor, Susan B. Anthony Institute for Gender and Women's Studies
University of Rochester, Rochester, NY**

2013

- *Undergraduate Seminar - Feminist Perspectives of Science*: Introduces undergraduate students to feminist theories of gender and science.

Adjunct Professor, Roberts Wesleyan College, Rochester, NY

2004-2007

- *Writing and Research*: Composition course focused on developing college-level writing from prewriting to editing, with emphasis on the revision process.
- *Writing and Research*: Advanced composition course focused on developing writing, critical thinking and research skills necessary for undergraduate coursework.

Adjunct Professor, Monroe Community College, Rochester, NY

2004-2005

- *College Composition*: Composition course focused on learning the process of composition, from prewriting to editing.

AWARDS & DISTINCTIONS

2016	Susan B. Anthony Dissertation Award Most distinguished dissertation in women's and/or gender studies awarded by faculty and administration of the University of Rochester Susan B. Anthony Institute for Gender and Women's Studies
2007-2013	Scandling Scholar Full doctoral program funding awarded by faculty and administration of the University of Rochester Warner Graduate School of Education
2013	Graduate Teaching Fellowship Teaching fellowship awarded for designing and teaching a Women's Studies course in her area of expertise. Course: Feminist Philosophies of Science
2010-2011	Pre-dissertation Award Full dissertation funding awarded for demonstrating potential for an academic career by faculty and administration of the University of Rochester Warner Graduate School of Education
2009-2011, 2013	Doctoral Conference Presentation Award Full conference funding awarded for demonstrating potential to contribute to her field by faculty and administration of the University of Rochester Warner Graduate School of Education
2008-2009 2010	Gender Studies Institute Research Grant Research grant awarded for promising research that contributes to the field of

- Gender and Women's Studies by awarded by faculty and administration of the University of Rochester Susan B. Anthony Institute for Gender and Women's Studies
- 2008 **Fellow, National Writing Project**
Fellowship awarded for improving knowledge of writing across multidisciplinary classrooms awarded by the University of Rochester Warner School of Education
Genesee Valley Writing Project
- 2008 **3-Year Excellence in Teaching Award**
Awarded for early career faculty members with exceptional performance in teaching by faculty and administration of Roberts Wesleyan College

PUBLICATIONS

Chaffee, R., Gupta, P., Jackson, T., Hammerness, K. (in press). Centering equity and access: An examination of a museum's mentored research youth program. In B. Bevan & B. Ramon (Eds.), *Making Museums More Equitable: Structural Constraints and Enduring Challenges Surfaced through Research and Practice Perspectives*. Taylor and Francis.

Chaffee, R., Hammerness, K., Gupta, P., Anderson, K., Podkul, T. (in press). Re-examining Wenger's community of practice theoretical framework: Exploring youth learning in science research. In P. Patrick (Ed.), *Applying Learning Theories in Research Outside the Classroom*. New York, NY: Springer.

Chaffee, R., & Gupta, P. (2018). Accessing the elite figured world of science. *Cultural Studies of Science Education*, 13(3), 797-805.

Chaffee, R., Luehmann, A., & Henderson, J. (2016). "Reflexivity is kicking our asses": Tensions in foregrounding photographs in a multimodal ethnographic analysis of participation. *Anthropology and Education Quarterly*, 47(4), 421-443.

SCHOLARLY PRESENTATIONS

Chaffee, R., Gupta, P., Hammerness, K., Podkul, T., MacPherson, A. (2021). Supports and challenges during educational crisis: Impact of the Pandemic on Youth Pathways. A paper presented at the Annual Meeting of the National Association of Research in Science Teaching (NARST). Virtual Conference.

Chaffee, R., Weckel, M., Gupta, P., Hammerness, K., Podkul, T., & Anderson, K. (2019). Examining Youth Pathways in Conservation and Environmental Science. Paper presented at the Annual Meeting of the American Educational Research Association, Toronto, CA.

Chaffee, R., Weckel, M., Gupta, P., Hammerness, K., Podkul, T., & Anderson, K. (2019). Examining Youth Pathways in Conservation and Environmental Science. Invited presentation at The Cary Institute for Ecosystems Studies, Millbrook, NY.

Podkul, T., Gupta, P., and Hammerness, K., **Chaffee, R.**, (2018, June). Social networks as critical features for sustained science engagement of youth. *International School and Conference on Network Science*. Paris, France.

Podkul, T., Gupta, P., **Chaffee, R.**, and Hammerness, K. (2018, March). Staying in science: An examination of youth pathways using social network theory and analysis. A paper presented at the Annual Meeting of the National Association of Research in Science Teaching (NARST). Atlanta, GA.

Luehmann, A., Calabrese Barton, A., Thompson, J., Hagenah, S., **Chaffee, R.** (2018, April). Urban teen women's film productions: An exploration of science and engineering agency as transformational pivots. A paper presented at the Annual Meeting of the American Educational Research Association (AERA), New York, NY.

Chaffee, R., Luehmann, A., Greenberg, D., Thompson J., Haganah, S., Calabrese Barton, A. (2018, June). Science agency as transformational pivots for 3D learning. In K. O'Connor (Chair), *Unpacking signs of learning in complex social environments: Desettling neoliberal market-driven educational methodologies, epistemologies and recognitions of learning*. Symposium conducted at the International Society of the Learning Sciences (ICLS), London, UK.

Chaffee, R., Calderon, C., Cotumaccio, A. (2018, May). Engaging museum youth as stakeholders in program design and implementation. *New York City Museum Educators Roundtable (NYCMER) Conference*. New York, NY.

Gupta, P., **Chaffee, R.**, Hammerness, K., & Podkul, T. (April 24, 2017). Staying in science: An examination of pathways of youth who participate in immersive science research activities. *National Association of Research in Science Teaching Annual Conference*. San Antonio, TX.

Gupta, P., **Chaffee, R.**, Podkul, T., & Hammerness, K.(2017). Staying in science: An examination of pathways of youth participating in immersive science research activities. *Association of Science and Technology Centers Annual Conference*, San Jose, CA.

Chaffee, R., Luehmann, A., and Henderson, J. (November 22, 2013). Analyzing series of images to represent urban girls' informal science learning processes. *American Anthropological Association Annual Meeting*. Chicago, IL.

Luehmann, A., **Chaffee, R.**, and Zeller, L. (November 5, 2011). Science STARS: Identity development in girls as science learners. *Rochester City School District Research Symposium*. Rochester, NY.

Luehmann, A., and **Chaffee, R.** (April 3, 2011). Redefining science to re-author selves: Investigating participants' dialogic meaning-making of science and selves in an inquiry club. *American Education Research Association Annual Conference*. New Orleans, LA.

Luehmann, A., and **Chaffee, R.** (April 8, 2011). Girls and science: Urban middle school girls'

perspectives, positioning and activism in science when conversations about identity and discrimination are explicitly nurtured. *National Association of Research in Science Teaching Annual Conference*. Orlando, FL.

Luehmann, A., and **Chaffee, R.** (November 12, 2010). I don't do science: Urban minority girls' Science identity development in an informal authentic science context. *Teaching and Learning in Urban Contexts: Research conducted with the Rochester City School District*. Rochester, NY.

Chaffee, R., and Curry, M. J. (September 15, 2010). Publishing productivity in STEM fields: Exploring why women publish less than men. *Susan B. Anthony Institute for Gender and Women's Studies*. University of Rochester, NY.

Chaffee, R. (March 6, 2010). Publishing productivity in STEM fields: Exploring why women publish less than men. *American Association of Applied Linguistics Annual Conference*. Atlanta, GA.

Luehmann, A., and **Chaffee, R.** (December 6, 2009). I Don't Do Science: Urban Minority Girls' Science Identity Development in an Informal Authentic Science Context. *American Anthropological Association*. Philadelphia, PA.

Curry, M. J., O'Connor, K., **Chaffee, R.**, and Cheung, N. (March 24, 2009). Engineers writing for publication: The discursive production of access to professional practices. *American Association of Applied Linguistics*. Denver, CO.

SERVICE

Manuscript Reviewer, *Anthropology and Education Quarterly, Environmental Studies and Sciences*
Proposal Reviewer, NARST Annual Conference, 2019, 2020

PROFESSIONAL ORGANIZATIONS

National Association of Research in Science Teaching, 2010 - present

National Council of Teachers of English, 2014-2016

American Anthropological Association, 2009 to 2014

American Association of University Women, 2009 to present

American Educational Research Association, 2008 to 2015

Div G: Social Context of Education

Div C: Learning and Instruction

SIG: Research on Women and Education

SIG: Learning Sciences

American Associate of Applied Linguistics, 2009 to 2010