

PROFESSIONAL EXPERIENCE

Interdisciplinary Summer School in the History of Science History of Science Society, Philadelphia PA Faculty member	July 2023
The Cooper Union for the Advancement of Science and Art, New York NY Associate Professor (Adj.), Faculty of the Humanities and Social Sciences Assistant Professor (Adj.), Faculty of the Humanities and Social Sciences	2011 to present 2006-2011
Stevens Institute of Technology, Hoboken NJ Affiliate Instructor, History and History of Science	2004-2008
University of Connecticut, Stamford CT Adjunct Assistant Professor	2004
Parsons School of Design (New School University), New York NY Adjunct Assistant Professor	2002-2004
SUNY-Stony Brook (now Stony Brook University), Stony Brook NY Teaching Assistant	1990-1995
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Art Conservator Specializing in fiber-based items, conservation standards, education, and related consulting	1978 to present
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Owner, Strategies for Solo Practitioners (formerly Research and Writing) Management consulting and editorial services to artists, artisans, academics, and professional practitioners	2009 to present
Curriculum Designer, Course Development Specialist, and Facilitator Online and in-person business and writing skills	2004 to present
Independent Writer, Reseracher, Consultant Contracted projects include grant and proposal writing, grant management and curriculum development for arts, science, and business initiatives	2002 to present
Program Consultant, Girl Scouts of the USA Responsible for national science technology mathematics and engineering initiatives including fundraising, program design, curriculum design, teaching, and program management	2000-2002

EDUCATION

- Ph.D., State University of New York, Stony Brook, NY 1999
 History of technology and science; early modern European social history
 Advisor: Elizabeth A. Garber
 Dissertation title: *Color Practices, Color Theories, and the Creation of Color in Objects in Britain and France in the Eighteenth Century*
- M.A., State University of New York, Stony Brook, NY 1992
 History of early modern Europe, emphasis on the history of science and technology
- A.B., Washington University 1975
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- Art conservation apprenticeship training 1976-1988
 Apprenticeship program based at the American Museum of Natural History (New York, NY), plus additional coursework in chemistry, physics, and textile engineering. Specialized training or certification in dry cleaning, historic dye analysis, and pest management.

AWARDS AND FELLOWSHIPS

- Mistry Distinguished Fellow, Science History Institute, Philadelphia, PA 2022
 Project: "My Red Bandannas: The Waning Days and After-life of Turkey red"
- American Research Institute of the South Caucasus, University of Illinois at Urbana-Champaign, 2019
 Summer Workshop, "Teaching the South Caucasus"
 Project: A curriculum about 18th century European travelers to the Caucasus
- Visiting Scholar, Max-Planck-Institut für Wissenschaftsgeschichte, Berlin Germany 2018
 Research Department III: Artefacts, Action, and Knowledge; The Body of Animals Working Group, Dagmar Schäfer, Tamar Novick and Lisa Onaga, leaders.
 Project: "Animal-Vegetable Transformations"
- National Endowment for the Humanities, Summer School, "Transcending Boundaries" 2016
 Georgetown University, Washington, DC
 Project: "Turkey Red"
- Dibner Research Fellow, Huntington Library, San Marino, CA 2008
- Gutenberg-e Prize, American Historical Association, Washington, DC 2001
www.theaha.org/prizes/gutenberg; www.gutenberg-e.org
- Post-Doctoral Fellow, Max-Planck-Institut für Wissenschaftsgeschichte 1999-2000
 Research Group in the History and Philosophy of Chemistry and Biochemistry, Ursula Klein, group leader. Project title: *Color in the workshop, color in the lab: The creation of color in eighteenth-century*
- Dibner Library Scholar, Smithsonian Institution, Washington, DC 1998
- NSF Doctoral Dissertation Improvement Grant (SBER95-20395) 1996-1997

PUBLICATIONS

Peer Reviewed

Ordering Colours in 18th and Early 19th Century Europe. Co-editor, with Tanja C. Kleinwächter and Friedrich Steinle. Springer Nature (2023). <https://link.springer.com/book/9783031349553>.

The Creation of Color in Eighteenth-Century Europe. (Gutenberg-e series) New York: Columbia University Press, 2006. <http://www.gutenberg-e.org/lowengard>.

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"On the Disappearance of the Animal Body: Animal Fats, Tallow, Candles, Soap, and Chemistry before 1830." Making Animal Materials in Time, ed. Lisa Onaga and Laurence Douny. *Historical Studies in the Natural Sciences* (2023) 53 (3): 242–255. <https://doi.org/10.1525/hsns.2023.53.3.242>

"Expanding on the (Already Global) History of Turkey Red." *Colors and Cultures: Interdisciplinary Explorations / Couleurs et Cultures: Explorations interdisciplinaires*. Sämi Ludwig, Astrid Starck-Adler and André Karliczek, eds. Berkeley, CA: Salana, 2022, 294-310.

"Seraglio of the Sciences." *Civilization, Cities, and Architecture*. Edited Uğur Özçelik, Şükrü Çavuş, and Uğur Cenk Deniz Imamoğlu. Istanbul: Turkish Historical Society, 2022.

"Western Travelers Describe Foreign Textile Practices." *Technology's Stories* (Society for the History of Technology June 23, 2019. <http://www.technologystories.org/western-travelers-describe-foreign-textile-practices/>.

"Les mots de la couleur au XVIII^e siècle en Europe/Words for Color in the Eighteenth Century." In *Under the Rainbow*. Edited by Titania Rihs. Lausanne: É C A L, 2018.

"Explaining Color in Two 1963 Publications." In *Intersecting Colors: Josef Albers and his Contemporaries*. Edited by Vanja Molloy. Amherst, MA: Amherst College Press, 2015

"Prussian blue: Transfers and Trials." In *The Materiality of Color: The Production, Circulation, and Application of Dyes and Pigments in the Early Modern World*. Edited by Andrea Feeser, Maureen Daly Goggin, and Beth Fowkes Tobin. Farnham, Surrey, UK: Ashgate, 2012.

"Pigments in Western Easel Painting, Including Binding Media," (co-author with Nicholas Eastaugh, Jilleen Nadolny, Eema Hermens, and Joyce Townsend). In *Conservation of Easel Paintings: Principles and Practice*. Edited by Joyce Hill Stoner and Rebecca Rushfield. Oxford, UK: Butterworth-Heinemann, 2012. 2nd edition 2021.

"Colour-printed Illustrations in 18th Century Periodicals," in *Book Illustration in the Long 18th Century: Reconfiguring the Visual Periphery of the Text*. Edited by Christina Ionescu. Cambridge: Cambridge Scholars Press, 2011; reprinted 2015.

Peer reviewed essays, continued

"George Berg, Musician and Glassmaking Student: Scientific Learning for Technological Applications in mid-18th Century London," in *The Applied Science Problem*. Edited by James E. McClellan, III. Jersey City, NJ: Jensen/Daniels Publishers, 2008.

"Chemistry in Colour: Ceramics and Glass in 18th century Britain," *Endeavour* 26, no. 2 (2002).

"Colour Quality and Production: Testing Colours in 18th century France," *Journal of Design History* 14, no. 2 (2001).

"Colours and Colour Making in the 18th Century," in *Consumers and Luxury: Consumer Culture in Europe 1650-1850*. Ed. M. Berg and H. Clifford, Manchester University Press (1999).

"Two Early Stain Removal Techniques and Their Recurrence into Later Centuries," *Ars Textrina: A Journal of Textiles and Costume* 8 (December 1992).

Other (including book reviews)

"A Perfect Ground: Preparatory Layers for Oil Paintings 1550–1900 [Review]" *Ambix*, 65, no. 4 (2018): 404-405

"John Vassos: Industrial Design for Modern Life by Danielle Shapiro [Review]" *Technology and Culture* 59, no. 2 (2018): 490-492

"Early Modern Things. Objects and their Histories, 1500-1800 ed. By Paula Findlen [Review]" *Ambix* 62, no. 1 (2015): 101-102.

"Analyzing Art and Aesthetics. Edited by Anne Collins Goodyear and Margaret Weitekamp [Review]." *Technology and Culture* 55, no. 3 (2014): 739-40.

"California Design, 1930-1965: Living in a Modern Way ed. by Wendy Kaplan [Review]." *Technology and Culture* 54, no. 2 (2013): 421-422.

"Business Management Education in the Conservation Community" *e-Conservation Magazine* Iss. 21 (2011) www.e-conservationonline.com/content/view/1018

"The Late Age of Print: Everyday Book Culture from Consumerism to Control [Review]." *Technology and Culture* 51, no. 4 (2010):1046-1048.

"Divide and Conquer?" [Essay Review: Mark Clarke, Joyce H. Townsend and Ad Stijnman, eds.; *Art of the Past: Sources and Reconstructions*. Proceedings of the first symposium of the Art Technological Source Research Study Group and Stefanos Kroustallis, Joyce H. Townsend, Elena Cenalmore Bruquetas, Ad Stijnman and Margarita San Andrés Moya, eds.; *Art Technology: Sources and Methods*. Proceedings of the second symposium of the Art Technological Source Research Study Group]. *Journal of the American Institute for Conservation of Historic and Artistic Works* 48, no. 1 (Spring 2009): 177-180.

Other essays (continued)

"The Digital Remains" [Essay Review: Christine Borgman, *Scholarship in the Digital Age*]. *Technology and Culture* 49, no. 4 (2008): 1031-35.

"George Berg and the Society of Arts: Interest, Improvement, and the Nature of Engagement" Interactive electronic paper, The William Shipley Group website, Royal Society of Arts, available since 15 June 2006. <http://georgeberg.blogspot.com/2006/06/preface.html>

"Supple as Voile, Sturdy as Canvas" [Essay Review: David Jenkins, ed. *The Cambridge History of Western Textiles*]. *Technology and Culture* 46, no. 1 (2005):192-197.

"From Energy to Information: Representation in Science and Technology, Art, and Literature [Review]." *Technology and Culture* 45, no. 1 (2004): 227-229.

"Discussing Chemistry and Steam: The Minutes of a Coffee House Philosophical Society, 1780-1787 [Review]." *Technology and Culture* 45, no. 3 (2004):647-648.

"Instruments and Experimentation in the History of Chemistry [Review]." *Technology and Culture* 43, No. 3 (2002):600-602.

"Die Tuchlebarone: Zur Geschichte der Textildruck- und Textilfarbeindustrie in Hard vom späten 18. bis zum frühen 20. Jahrhundert [Review]." *Technology and Culture* 41, no. 4 (2000): 801-802.

"About Mundic," *RSA Journal* 145, no. 5476 (January-February 1997): 64.

"European Women and Preindustrial Craft by Daryl M. Hafter [Review]." *The Business History Review* 70, no. 2 (1996): 288-290.

Guide to Textile Conservation [Editor-in-Chief]. New York: The Textile Conservation Group, 1988.

"Drycleaning: Annotated Bibliography" in "Dry Cleaning Concerns that Affect Practicing Textile Conservators" *Textile Conservation Group Newsletter* 9, no. 4 (January 1987): 2-3; supplement.

"Care of Textile Heirlooms." *CHAN* (Center for the History of American Needlework) *Quarterly* 9, no. 2 (Spring 1985) and 9, no. 3 (Summer 1985).

LECTURES AND PRESENTATIONS

Invited Lectures and Presentations

"Taking Your Research to New Audiences," History of Science Society, Interdisciplinary Summer School and The Science History Institute, Philadelphia, PA, 10 July 2023.

"Understanding Color as an Emerging Technology," Technische Universität Berlin, Internationale Summerschool, *Handhabung, Inszenierung und Aneignung von Material* 22 September 2021.

Invited lectures and presentations (continued)

"Writing an Abstract for a Conference Presentation." Coalition of Master's Students in Material Culture online workshop. 16 May 2023.

"A Beginning Not an End (Some Final Remarks)." Ordering Colours in the Eighteenth and Early Nineteenth Centuries workshop organized by Tanja Kleinwächter & Friedrich Steinle. Technische Universität Berlin (online) 5-19 June 2020.

"Waste Not: Soap and Animal Fats Amid Changing Industrial Practices 1760-1860." Animal Materialities workshop organized by Lisa Onaga & Laurence Douny. Max-Planck-Institut für Wissenschaftsgeschichte, Berlin. 5-6 December 2019.

"Color (Materials, Ideas, Practice)." Seminar presented with Daniel Rosenberg, Harvard Department of Chemistry. The Summer Institute for Technical Studies in Art (SITSA), Harvard Art Museums, 11 June 2019.

"Vegetable · Animal · Transformation: Exploring the plant-animal interface through eighteenth-century color production" Department III Colloquium, Max-Planck-Institut für Wissenschaftsgeschichte, Berlin (November 2018)

"The Vagaries of Technology Transfer: Jacob Christof Le Blon's Endeavour into Tapestry-making and its Connections to his Colour Printing Ventures," Printing Colour 1700-1830 conference at the Institute of English Studies, University of London (April 2018).

Organizer, with Daryl M. Hafter, "Work and Use in the pre-Industrial Textile Industry," on-site session at the Philadelphia Museum of Art. Society for the History of Technology annual meeting Philadelphia, PA (October 2017).

"Seraglio of the Sciences," International Symposium on Civilization, Cities, and Architecture, Istanbul, Turkey (April 2016).

"Why Color? On the Uses (Misuses) and Meanings of Color in Printing." Keynote lecture for the American Printing History Association annual meeting, New York City (October 2013).

"Textile Printing as Threat and Promise," *Emerging Technologies, Past and Present* workshop at University of California-Santa Barbara Center for Nanotechnology in Society, Santa Barbara, California (June 2013).

"Newton's and Other Eighteenth-century Color Theories," New York University Institute of Fine Arts (September 2012).

"Analogies, Adaptations, and Disorientations in the Mechanization of Color Printing Processes ca. 1640-1795." Keynote lecture for the *Colour in the 17th and 18th Centuries: Connexions Between Science, Arts and Technologie* conference, Technische Universität Berlin, Germany (June 2012).

Invited lectures and presentations (continued)

"The Chemistry of Color and Varnish for Oil Painting in the 18th Century Treatises of J-F Watin and Mauclerc," *La chimie des couleurs et des teintures au XVIII^e siècle*, journée d'études organized by the Centre de Recherche d'Histoire des Sciences et d'Histoire des Techniques (EA 127 Modernités & Révolutions), Université Paris I Panthéon Sorbonne and the Bibliothèque du Centre de recherche du château de Versailles (May 2009).

"The (Perennially) Emerging Field of Technical Art History" *Humanities Forum*, Stevens Institute of Technology (October, 2007).

"Prussian Blue, Saxon Green, Turkey Red: Fashion and Colors on the 18th Century Palette," Lecture sponsored by the Department of Consumer Affairs, the College of Liberal Arts, the History Department and the Art Department, Auburn University, Auburn AL (April 2006).

"Historians and the Visual," roundtable panelist, Western Society for French History annual meeting, Colorado Springs, CO (October 2005).

"Indigo in 'The Blue Century'," Lecture presented as part of The Colors of Invention: An Exploration of Color, Technology, and Culture, Jerome Lemelson Center, Smithsonian Institution, Washington DC (November 1997).

Contributed Lectures and Presentations

"Your Instructor Will Wear Gray: A History of Color Pedagogy at Cooper Union," co-authored with Mary Mann, Makenzie Williams and Ezra Sardes. Inter-Society Color Council, "Color Impact 2023" conference, Rochester, NY (June 2023).

"About Those Red Bandanas: A Work in Progress about History in the Chemical Lab," 13th International Conference on the History of Chemistry, European Chemical Society, Vilnius, Lithuania (May 2023)

"Toward a Globalized History of Turkey red," Colors and Cultures/Couleurs et Cultures, Mulhouse, France 12-14 (April 2021) <https://youtu.be/r2xLx9S25OQ>.

"Waste Not: Soap and Animal Fats Amid Changing Industrial Practices 1760-1860." Society for the History of Science Society-History of Technology joint annual meeting (October 2020)

Chair, "Color Charts as Trading Zones." European Society for the History of Science annual meeting (August 2020).

"Dye Technologies, Technology Transfer, and New Markets in Eighteenth-century Europe," Society for the History of Technology annual meeting, Philadelphia, PA (October 2017).

Contributed Lectures and Presentations (continued)

"Turkey Red, *"Transcending Boundaries: The Ottoman Empire, Europe, and the Mediterranean World, 1500-1800* National Endowment for the Humanities summer seminar, Washington DC, 2016
<https://bit.ly/TurkeyRed>.

"Technological and Social Changes in Color-printing Workshops to 1700" *Impressions of Colour* conference, Centre for Research in the Arts, Social Sciences and Humanities, Cambridge, England (December 2011).

"Center from the Periphery: Conceptual and Practical Motivations in the Mechanization of Color Printing 1740-1795," Society for the History of Technology annual meeting, Pittsburgh, PA (October 2009).

"The Technologies of Color Reproduction for Prints and Textiles" American Society for Eighteenth-Century Studies annual meeting, Richmond, VA (March 2009).

"Digital Scholarship and the History of Science" roundtable co-organizer and moderator, History of Science Society annual meeting, Pittsburgh, PA (November 2008).

"Scientific Analysis and Works of Art Connect to Create a Profession? Notes on the Perennially Emerging Field of Technical Art History" (co-presenter with Dr. Nicholas Eastaugh) *Three Societies Conference* (a quadrennial history of science conference), Keble College, Oxford (July 2008).

"Chemistry of Glassmaking and Glassmaking for Chemistry in the Experiment Books of George Berg, London Musician," British Society for Eighteenth-Century Studies annual meeting, St. Hugh's College, Oxford, England (January 2006).

"George Berg, Musician and Glassmaking Student: Scientific Learning for Technological Applications in mid-18th century London," The Applied Science Problem, Stevens Institute of Technology (May 2004).

"Industrializing Color: Novelty and Improvement in the Eighteenth-century Color Industry" Society for the History of Technology annual meeting Detroit, MI (October 1999)

"Dyes and Colors in the 18th Century: Historiographic (and Other) Problems," Society for the History of Technology annual meeting, Lowell, Mass., (October 1994).

"Two Early Stain Removal Techniques and their Recurrence into Later Centuries," *Ars Textrina* International Textiles Conference, Indianapolis, IN (June 1991).

CURRENT RESEARCH PROJECTS

The Turkey Red Papers (A series of presentations and articles; see Lowengard 2022)
Technologies of color printing (paper and textiles) 1640-1795
 Early modern encounters between “East” and “West” through color technologies
 Resistance to technology in the early modern era; the idea of “emergence”

PROFESSIONAL ACTIVITIES

Faculty Member, History of Science Society Interdisciplinary Summer School	2023
(Alternate) Career Fair Adviser, American Historical Association	2023
Treasurer, Cooper Union Organization of Part-Time Faculty (NYSUT/AFT)	2019 to present
Member, Printing Colour Project, London and Leiden	2018 to present
Affiliate, Colour Order Project Technische Universität, Berlin	2015 to present
Graduate Student Mentor, History of Science Society	2015 to present
Member, Editorial Committee, Society for the History of Technology	2013-2017
Member, Task Force on Report on the Data Management and Data Management Plans for the History of Science Society Committee on Research and the Profession	2013
Member, Advisory Board, eTC, Society for the History of Technology open-access web pages (www.techculture.org)	2006-2013
<i>Professional Activities (continued)</i>	
Member, The Pigmentum Project, London and Oxford, (www.pigmentum.org)	2001 to present
Peer Reviewer, U.S. Department of Education	2001 to 2012
Contributor-Reviewer, American Society for Testing Materials (ASTM) D.13 Textile Committee on Textile Conservation Standards	1987-1989
Board Member, Membership Secretary, Incorporator, Editor The Textile Conservation Group	1986-88; 2000-02
Steering Committee Member, The New York Conservation Association	1984-85; 1990-94
Art Conservation Mentor	1984 to present
Miscellaneous (anonymous) reviews for journals and publishers	1994 to present

SERVICE

Treasurer, Cooper Union Organization of Part-Time Faculty (NYSUT, AFT)	2019-2021
Grant Proposal Reader, US Department of Education, National Endowment for the Humanities	2000-2009
Peer reviewer, various journals, and publishers	2000-present
Career Adviser for The American Institute for Conservation, the History of Science Society, the American Historical Association	2004 to present

COURSES DESIGNED AND PRESENTED

Post-Secondary Academic Courses

Big Science
Color: History Materials, Practices
Color Production as an Emerging Technology
Darwin in His Times
Design History
History of the Scientific Method
History of Textiles
Leonardo, Scientist and Engineer (Science, Technology, and Medicine in the Renaissance)
Materiality of Color
Science and Technology in the Islamic Worlds
Science and Technology in the Long 18th Century
Science and Technology in the Modern World
Time, Travel, and Communication in Early Modern Europe

Online Business Education for Artists, Artisans, Academics

Basics of Textiles Conservation
Business Models in the Independent Practice
Describing Yourself and What You Do
Effective Abstract Writing
Establishing a Conservation Practice
Estimating Conservation Projects
Managing Your Professional Life
Marketing Your Professional Practice
Mitigating Risk in Art Conservation
Presenting Your Work to Others
Professional Responsibility
Research Methods
Six Tips to Improve Your Proposal-Writing
Talking About Your Thesis
Writing to Ask/Writing to Tell
Writing Your Thesis
Your Life as an Independent [*Whatever*]