

# Steven A. Walton

## Curriculum Vitae



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Birthplace: Milwaukee, Wisconsin, USA

Citizenship: United States of America

### Education

- Ph.D. 1999 University of Toronto, History and Philosophy of Science & Technology. *The Art of Gunnery in Renaissance England* (Advisor: Bert S. Hall).
- M.A. 1994 University of Toronto, History and Philosophy of Science & Technology. *Engineering the Body: Mechanical Men & Animals and the Mechanistic Philosophy, 1500-1800* (Advisor: Bert S. Hall).
- M.S. 1992 California Institute of Technology, Mechanical Engineering.
- B.S. 1991 Cornell University, Mechanical Engineering.

### Employment History

- 2016-present **Michigan Technological University:** Associate Professor of History, Department of Social Sciences.
- 2012-2015 **Michigan Technological University:** Assistant Professor of History, Department of Social Sciences.
- 2002-2012 **Pennsylvania State University:** Assistant Professor of STS, Program in Science, Technology, & Society.
- Fall 2009 **University of Leeds (UK):** Leverhulme Visiting Professor, Institute for Medieval Studies.
- 2000-2002 **Michigan Technological University:** Visiting Assistant Professor, Department of Social Sciences.
- 1999-2000 **University of Toronto:** Lecturer, Institute for the History and Philosophy of Science and Technology.
- Summer 1999 **York University (Toronto):** Instructor, Atkinson College.
- 1992-99 **University of Toronto:** Teaching Assistant, Institute for the History and Philosophy of Science and Technology.

## Career Activities

### Professional Associations

- 1992– Society for the History of Technology (SHOT)
- 1992– Association Villard de Honnecourt for the Interdisciplinary Study of Technology, Science, and Art in the Middle Ages (AVISTA)
- 1994– Society for Industrial Archaeology (SIA)
- 1996–2000 History of Science Society (HSS)
- 2002– De Re Militari [medieval military history]
- 2002–2003, 2014– International Committee on the History of Technology (ICOHTEC)
- 2005– International Molinological Association [history of mills and milling]
- 2006– Early American Industries Association (EAIA)
- 2013– Society for Military History (SMH)
- 2004–2006 Society for the Social Studies of Science (4S)
- 2010–2016 Tools and Trades Historical Society (TATHS) [UK]

### Society and Professional Service

#### Current

2017–2024 Editor, *IA: The Journal for the Society for Industrial Archeology* <https://www.sia-web.org/publications/ia-journal>

2016–2024 Editor, *Vulcan: The Journal for the History of Military Technology* [www.brill.com/vulcan](http://www.brill.com/vulcan)

- Ad hoc article manuscripts reviews for: *Technology & Culture*, *Centaurus*, *The Journal of Medieval Military History*, *Historical Research*, *IA: The Journal of the Society for Industrial Archeology*, and *AmS-Skrifter*.
- Ad hoc peer-reviewer of book manuscripts: University of Wisconsin Press, the Ohio State University Press, Ashgate Press, Westview Press, Oklahoma State Press, Johns Hopkins University Press, and the University of Toronto Press.

#### Past (sorted by most recently ended)

2010–2023 Science and Technology (incl. Military) strand coordinator for sessions at the International Medieval Congress, Leeds, UK

2018–2019 Contributing Editor, *Journal of the Ordnance Society*

2011–2018 Series editor (with Adam Lucas) for *Technology and Change in History* [www.brill.com/tch](http://www.brill.com/tch)

2015–2017 Ad hoc proposal and Advisory Panel reviewer for NSF-SBES division

2014–2017 Eugene Fergusson prize committee, Society for the History of Technology (SHOT); chair for 2015–16.

2000–2014 Book review editor, *De Re Militari* society [www.deremilitari.org](http://www.deremilitari.org)

2009–2013 President, AVISTA society [www.avista.org](http://www.avista.org)

2006–2010 Layout editor, *AVISTA Forum Journal*

2004–2009 Vice-President AVISTA society

2006–2008 Review editor for history of science and technology and military history, *TMR: The Medieval Review* [quod.lib.umich.edu/t/tmr/](http://quod.lib.umich.edu/t/tmr/)

- 2005–2008 Field editor (history of technology), *ORB: On-Line Research Bibliography for Medievalists* [www.the-orb.net](http://www.the-orb.net)
- 1992–2008, 2010–2013 Webmaster, AVISTA society [[www.avista.org](http://www.avista.org)]
- 1999–2000 Research director: *imago* HST image database [www.chass.utoronto.ca/imago](http://www.chass.utoronto.ca/imago) [now [utsic.utoronto.ca](http://utsic.utoronto.ca)]

### University and Departmental Service

- 2013–present Curriculum coordinator, Dept. of Social Sciences, Michigan Tech
- 2025–2026 Essential Education Course List Team: Foundations and SHAPE
- 2023–2025 Essential Education Working Groups committee – Course Lists, Foundations, and SHAPE
- 2023–2024 Industrial Heritage and Archaeology graduate program coordinator
- 2018–2023 Social Sciences Graduate Program
- 2015 Curriculum (“binder”) process LEAN committee
- 2013– Website liaison, Dept. of Social Sciences, Michigan Tech
- 2012–2023 General Education Council, Michigan Tech
- 2012–2013 Website redevelopment committee, Dept. of Social Sci., Michigan Tech
- 2012–2013 *Global Issues* taskforce, Dept. of Social Sciences, Michigan Tech
- 2005–2012 Undergraduate Curriculum Committee chair, Science, Technology, & Society Program, Penn State
- 2002–2010 Webmaster, Science, Technology, & Society Program, Penn State

### Research Assistantships and Service during Graduate School

- 1999–2001 Research Assistant for Richard White, *The Skule Story: History of Engineering at the University of Toronto, 1873–2000* (Toronto: University of Toronto Press, 2001)
- 1999–2000 Research Aid and HTML programming: UTMuSI Scientific Instrument Project, IHPST, University of Toronto [www.chass.utoronto.ca/utmusi](http://www.chass.utoronto.ca/utmusi)
- 1998, 1999 Aid, Templeton Workshop in Science & Religion, Univ. of Toronto
- 1998–2000 Technical Writing Tutor: Engineering Writing Center, U. of Toronto
- 1997–1999 History of Science and Technology Journals cataloging: *Iter* Database Project, Centre for Renaissance and Reformation Studies, U. of Toronto
- 1996–1997 President, HAPSAT Graduate Student Association, IHPST, Univ. of Toronto
- 1996 Organizer, MEPHISTOS graduate conference, Univ. of Toronto
- 1994–1995 Colloquia coordinator, HAPSAT, IHPST, Univ. of Toronto
- 1994 Aid, local organizer, and tour guide, Society for Industrial Archaeology (SIA) conference, Toronto, ON

### Academic Grants & Awards

- 2019 Vogel Prize for best article, Society for Industrial Archaeology Annual Conference, Chicago, IL.
- 2013–2015 Michigan Tech Research Excellence Fund (REF): “Discerning the Picturesque and the Industrial: Hudson River Social Networks in the Diaries of Ellen Kemble, 1845–1905,” \$3,800.

- 2010–2012 British Academy Small Research Grant, “Origins of Firepower: Characterising the earliest surviving small field artillery and hand guns” [with Glenn Foard], £7,200.
- 2009 Leverhulme Visiting Professor (July-Dec.), Centre for Medieval Studies, Univ. of Leeds, £52,000.
- 2005 Edwin S. Miller Fellowship in Naval History, Naval War College, Newport, RI, \$1,000.
- 2004–2006 *Building Community: Medieval Technology and American History*, NEH [EE-50095-04](#), \$160,000.
- 2003–2004 *Imagining Nature: Technologies of the Literal and the Scientific Revolution*, Folger Institute Seminar, Folger Shakespeare Library, Washington, DC, fee waiver and lodging.
- 2002 International Summer School for the History of Science, UC–Berkeley, CA, airfare and lodging.
- 2001 *Experience and Experiment in Early Modern Europe*, NEH Seminar, Folger Shakespeare Library, Washington, DC, waiver and lodging.
- 2001 Summer Seminar in Military History, US Military Academy, West Point, NY (declined due to conflict).
- 2000 International Summer School for the History of Science, Paris, France, airfare and lodging.
- 1997–98 Ontario Graduate Scholarship, University of Toronto.
- 1997 UofT Graduate Student Travel Award for archival work at University of Delaware, Newark, DE.
- 1996 UofT Graduate Student Travel Award for archival work in London and Oxford, UK.
- 1995 Dibner Library Visiting Fellow, Smithsonian Institution, Washington, DC.
- 1992–98 Foreign student differential fee waiver, University of Toronto.
- 1992–97 U. of Toronto Open Fellowships, University of Toronto.
- 1991–92 Earl C. Anthony Graduate Scholarship, California Institute of Technology.

### Media Experience

- February 2024 – Interviewed for a podcast, Meyer’s Fun Facts, on Project Elf. 30 min. runtime. <https://podcasters.spotify.com/pod/show/s-meyer/episodes/Project-ELF-e2epfat>
- October 2018 – Interviews and articles related to the Houle Report, a WWI-era report of Prof. Albert J. Houle to the Committee on Education and Special Training regarding training men at Michigan Tech in conjunction with the mines in the area. See Cyndi Perkins, “Marches, Mining and Messages from WWI,” *Unscripted: Science and Engineering Research*, October 18, 2018: <https://www.mtu.edu/unscripted/stories/2018/october/marches-mining-and-messages-from-wwi.html>.
- November 2013 – The Captain and the Professor: Inventing the Parrott Gun before the Civil War, presentation at Smithsonian Institution Symposium, *Astride Two Ages: Technology and the Civil War*. Available on C-Span: [www.c-span.org/video/?309361-2/civil-war-battlefield-technology](http://www.c-span.org/video/?309361-2/civil-war-battlefield-technology)

March–April 2012 – Producing a series of web videos (shot and edited by Tanner Sweeny) for the Centre County Historical Society (PA) on Central Pennsylvanian Iron mining and production.

December 2011 – Interview on the West Point Foundry for episode of *The President's Book of Secrets* (Prometheus Entertainment) on The U.S. Military Academy at West Point. Airdate, April 2012. See [www.prometheusementertainment.com/programs\\_pbos](http://www.prometheusementertainment.com/programs_pbos)

April 2011 – Interview on medieval metallurgy and swordmaking and demonstrated an iron smelt for episode on “Aliens and Deadly Weapons”(!!) for *Ancient Aliens* (History Channel/Prometheus Entertainment) on Swords. Airdate: cutting room floor(!) See [www.history.com/shows/ancient-aliens/episodes#slide-4](http://www.history.com/shows/ancient-aliens/episodes#slide-4)

May 2011 – Interviewed (with Glenn Foard) on 15<sup>th</sup>-century artillery at La Neuveville, CH for Time Team Special on the Wars of the Roses and the Battle of Bosworth. Airdate: October 2011. See [www.channel4.com/programmes/time-team-specials/episode-guide/series-6/episode-3](http://www.channel4.com/programmes/time-team-specials/episode-guide/series-6/episode-3)

October 2006 – Iron Smelting: From the Old to the New video on Penn State Experimental Iron Smelt (shot and edited by Enzo Sica) for *Building Community: Medieval Technology & American History*. See [www.engr.psu.edu/mtah/photos/video\\_ironsmelt.htm](http://www.engr.psu.edu/mtah/photos/video_ironsmelt.htm)

## Current Projects

### Volumes in various states

*Bombs, Blades, and Boats. The John T. Parsons Co. and the Making of Industrial Traverse City.*

This is a small project that I have been asked to write in 2023–24 by our satellite office in Traverse City. It is an exercise in an illustrated, moderate-length, popular writing placing a local manufacturer (who incidentally has international fame for having invented NC machining) in the post-WWII growth of ‘high tech’ in Traverse City, MI, and area otherwise known as vacationland and for cherry festivals and beaches. To be placed with The History Press next summer.

*Networks of Industry: The West Point Foundry and Nineteenth-Century American*

*Industrialization.* This book explores how the WPF was a nexus for heavy industry in the first half of the nineteenth century. It will to be proposed to Johns Hopkins University Press.

*Founding a Nation. The development of heavy ordnance manufacture in America.* An

exploration of the attempts to develop domestic U.S. ordnance production from the Revolution through the 1880s, and specifically with a throughline on the repeated debates on a national foundry and the question of nationalized industries in America.

*Transitions in Defense: Sixteenth-Century British Fortification.* This had begun as a transcription

and analysis of a ‘lost’ sixteenth-century treatise on fortification, but I was beaten to publication by another scholar who found it, so I pivoted to a more synthetic treatment of the importation of the new style of Renaissance fortification into England and Scotland.

Work on this has paused since 2018 when I was last able to get to Britain. This volume will be offered to University of Chicago Press, with a secondary outlet in the *History of Warfare* series for Brill Publishers.

*Gunnery Instruments before 1914 in the Rotunda, Woolwich,* a catalogue of collections of the

Royal Artillery Historical Trust. This project has stalled due to the closing of the Rotunda Museum and now the Royal Artillery Museum in Woolwich. But the catalog of over 400 gunnery instruments from the 16<sup>th</sup>–20<sup>th</sup> century in the collection awaits completion.

Basiliscoe Press had offered to develop it, but with the RAHT’s removal to Lark Hill and closure of the Woolwich Museum (and then covid), this remains in the air.

### Articles in preparation

“Paul Revere’s Pyrotechnics,” in preparation for *Arms & Armour*.

“Engines, Instruments and the Making of an FRS: Robert Erskine before he was Ironmaster and Washington’s Geographer,” in preparation for *Notes and Records of the Royal Society*, expected submission Sept. 2026.

“Stevens’ Battery: The Greatest Footnote of Naval History,” second author with Brian Burtka, in preparation for *The Journal of the Civil War Era*. Expected submission Summer 2026.

“War Trophies in America after the Great War,” in preparation for *The Journal of Homefront Studies*. submitted 2024; revising for resubmission spring 2026.

“From ‘Robot’ to ‘Robotism’ and Back,” on the public reception of the 1923 Carel Kapek play *R.U.R.* Expected submission 2026.

A comparative study of Vitruvius, *De Architectura*, bk X on machines, with Adam Lucas (but he got a large multi-year Leverhulme, so that is on hold).

“The successful boldness and enterprize of the founder: Developing domestic ordnance production after the War of 1812,” in preparation for *The Journal of the Early Republic*. [this project seems to have merged into the *Founding a Nation* volume above...]

“Iron Balaclavas: Northern Spanish Romanesque Mail Armour in Ecclesiastical Carvings,” in preparation for *Arms & Armour*.

“Cannon Founding (*Fonderie des Cannons*),” translation for the *Encyclopedia of Diderot & d’Alembert Collaborative Translation Project*, online at [quod.lib.umich.edu/d/did](http://quod.lib.umich.edu/d/did).

### Other ongoing interests

Just before and then during Covid, while there was no opportunity to travel to archives, as well as to work on my early modern German and Latin (which both need work!), I took the opportunity to work on transcriptions of a number of Renaissance works on technology and military technological topics which I may work up into translated editions (if there is even a market for these any more).

These include: Walter Rhyff, *Der Geometrischen Büxenmeisterey*, 1547; Thomas Bedwell, *Aurea Regula Coss, Nova Geometrica, or Rule of Proportion Geometrical*, c.1600 (Bodleian Library, Oxford, MS Laud misc. 618); Daniel Santbech, *Problematum Astronomicorum et Geometricorum Sectiones Septem*, Bk 6 on ballistics, 1561; Jacoppo Aconcio, *De Methodo, hoc est, de recta investigandarum tradenarumque scientiarum ratione*, 1558; Levi Hulsius, *Instrumentorum Mechanicorum*, part 2, 1605; and sections on technology and fortification from Robert Fludd’s *Tractatus secundus de naturae simia seu Technica macrocosmi historia in partes undecim divisa*, 1618.

## Publications

### Volumes

- Patricia Sotirin, STEVEN A. WALTON, and Sue Collins (eds.), *Home Front in the American Heartland: Local Experiences and Legacies of WWI* (Cambridge Scholars Press, 2020). ISBN: 978-1-52754-735-3. <https://www.taylorfrancis.com/books/edit/10.65325/EB8513/>.
- Laura W. Rouleau, Sarah Scarlett, Timothy J. Scarlett and STEVEN A. WALTON, *Historic Resource Survey: Pullman National Historical Landmark, Town of Pullman, Chicago, Illinois*, prepared for Midwest Archeological Center, National Park Service, 2020. Online at <https://digitalcommons.mtu.edu/michigantech-p/14692/>.
- STEVEN A. WALTON (ed.), *Fifty Years of Medieval Technology & Social Change*, AVISTA Series in the Medieval Technology, Science, and Art (London: Routledge, 2019). ISBN: 978-1-4724-7549-7. DOI: [10.4324/9781315582313](https://doi.org/10.4324/9781315582313).
- STEVEN A. WALTON and Michael J. Armstrong, *The Majestic "Nature" of the North: Thomas Kelah Wharton's Journeys in Antebellum America through the Hudson River Valley and New England* (Albany, NY: SUNY/Excelsior Press, 2019).
- Patricia Sotirin and STEVEN A. WALTON (eds.), *Proceedings of Armistice & Aftermath: A World War One Symposium*, Digital Commons @ Michigan Tech, 2018, online at <https://digitalcommons.mtu.edu/ww1cc-symposium/program/program/29/>.
- Lesley Cormack, STEVEN A. WALTON, and John Schuster (eds.), *Mathematical Practitioners and the Transformation of Natural Knowledge in Early Modern Europe*, Studies in the History and Philosophy of Science (Cham, Switzerland: Springer, 2017). ISBN 978-3-319-49430-2.
- Timothy J. Scarlett and STEVEN A. WALTON, *Archaeological Overview & Assessment: Pullman National Historical Landmark, Town of Pullman, Chicago, Illinois*, prepared for Midwest Archeological Center, National Park Service, 2017. Online at <https://npshistory.com/series/archeology/mwac/tech/142.pdf>.
- STEVEN A. WALTON (ed.), Theme issue on the West Point Foundry, *IA: The Journal of the Society for Industrial Archeology* 35.1/2 (2009 [2012]), 140pp. ISSN: 0160-1040.
- STEVEN A. WALTON (ed.), *Wind & Water in the Middle Ages: Fluid Technologies from Antiquity to the Renaissance* (Tempe, AZ: ACMRS Press, 2006). ISBN: 978-0-86698-367-9.
- STEVEN A. WALTON (ed.), *Instrumental in War: Science, Research, and Instruments Between Knowledge and the World*, History of Warfare 28 (Leiden: Brill Publishers, 2005). ISBN: 978-9-00414-281-7
- Robert Bork, STEVEN A. WALTON, Carol Neuman de Vegvar, and Scott Montgomery (eds.), *De Re Metallica; Studies in Medieval Metals*, AVISTA Studies in the History of Medieval Technology, Science and Art 4 (Farnham, UK: Ashgate, 2005). ISBN: 978-0-75465-048-5. — I was in charge of editing the section on 'mundane metals' (4 papers)

### Journal Editorial work

- IA: The Journal for the Society of Industrial Archaeology*. ISSN 0160-1040. [www.sia-web.org/publications/ia-journal](http://www.sia-web.org/publications/ia-journal). Editor from Jan. 2017 – April 2026, producing vol. 42–46.

*Vulcan: The International Journal for the Social History of Military Technology*. ISSN: 2213-459X. [www.brill.com/vulc](http://www.brill.com/vulc). Editor from March 2016 – March 2024, producing vol. 5–11.  
*AVISTA Forum Journal*. OCLC 50315801. <https://www.avista.org/forum-journal>. Asst. Editor and Layout from ~2005–2013.

## Digital History

*IHSI: Michigan Tech Inventory of Historic Scientific Instruments*, [ihsi.omeka.net](http://ihsi.omeka.net).

*MHUGL: Military History of the Upper Great Lakes*, [ss.sites.mtu.edu/mhugl](http://ss.sites.mtu.edu/mhugl)

*Copper Country Architects* (site development only), [ss.sites.mtu.edu/cca](http://ss.sites.mtu.edu/cca)

## Chapters in peer-reviewed edited volumes

“Speculum Machinarum: Useful, Useless, and Usable Machinery,” in *The Beauty in the Machine: Symbolic Machines, Automata, and Precious Gears in the Early Modern Period*, ed. by Cristiano Zanetti (Leiden: Brill, forthcoming 2027), TBD.

“In the Shadow of the Arsenal Gate,” in *Maker Space: Creative Environments in Early Modern Europe*, ed. Colin Murray, Sophie Pitman, and Tianna Helena Uchacz (New York: Bard Graduate Center, 2024), TBD

“ReCOGNition: Revisiting Medieval Gearing from Vitruvius to Print,” in.. *The Worlds of Villard De Honnecourt : The Portfolio Medieval Technology and Gothic Monuments*, ed. by George Brooks and Maile S. Hutterer, AVISTA Studies in the History of Medieval Technology, Science and Art 15 (Leiden: Brill, 2023), 323–364.

“Technology,” in *A Cultural History of Objects in the Modern Age*, A Cultural History of Objects 6, ed. by Laurie A. Wilkie and John M. Chenoweth (London: Bloomsbury Academic, 2020), 65–83. [lead author; with Timothy Scarlett]

“Technology,” in *A Cultural History of Objects in the Industrial Age*, A Cultural History of Objects 5, ed. by Carolyn White (London: Bloomsbury Academic, 2020), ch.2, [second author; with Timothy Scarlett]

“The American Expositionary Forces in WWI: From Patriotism to Memorialization of War,” in *Home Front in the American Heartland: Local Experiences and Legacies of WWI*, edited by Patricia Sotirin, Steven A. Walton, and Sue Collins (Cambridge Scholars Press, 2020), 205–239.

“Technologies of Pow(d)er: Military Mathematical Practitioners’ Strategies and Self-Presentation,” in Lesley Cormack, Steven A. Walton, and John Schuster (ed.), *Mathematical Practitioners and the Transformation of Natural Knowledge in Early Modern Europe* (Cham, Switzerland: Springer, 2017), 87–113.

“Heavy Artillery Transformed,” in *Astride Two Worlds: Technology in the American Civil War*, ed. by Barton C. Hacker (Washington, DC: Smithsonian Institution Press, 2016), 55–85.

“Proto-Scientific Revolution or Cookbook Science? Early gunnery manuals in the craft treatise tradition,” in Ricardo Cordoba (ed.), *Craft Treatises and Handbooks: The Dissemination of Technical Knowledge in the Middle Ages*, De Diversis Artibus 91 (Turnhout: Brepols, 2013), 221–236.

“Industrial Archaeology in North America: Current Activities and Future Prospects,” 3<sup>rd</sup> *International Conference on Industrial Heritage. Rijeka, the Historical Traffic Crossroad*

- between Mediterranean and Europe*, Rijeka (Croatia), 12.–13. Listopada [October] 2007 (Rijeka: Pro Torpedo, 2010), 55–76. [with Patrick Martin and Scott See].
- “Armour and Arms in American Museums,” in Robert D. Smith (ed.), *ICOMAM 50: Papers on Arms and Military History 1957–2007* (Leeds: Basiliscoe Press, 2007), 52–77.
- “The Early Years of the U.S. Naval Torpedo Station, Newport, Rhode Island,” *International Conference on Industrial Heritage. Rijeka, the Historical Traffic Crossroad between Mediterranean and Europe*, Rijeka (Croatia), 12.–13. Listopada [October] 2007 (Rijeka: Pro Torpedo, 2010), 515–534.
- “The Object of North American Armor Collections, c.1850–1914,” in *Acta of the 17<sup>th</sup> Conference of the International Committee of Museums and Collections of Arms and Military History, Organized under the theme The Storyline in Arms and Military Museums* (Ottawa: National Defense, 2006), 20–33.
- “Mathematical Instruments and the Creation of the Scientific Military Gentleman,” in Steven A. Walton (ed.), *Instrumental in War: Science, Research, and Instruments Between Knowledge and the World*, History of Warfare 28 (Leiden: Brill Publishers, 2005), 17–46.
- “Medieval Science, Technology and Health,” in *World Eras*, vol. 4: *Medieval Europe (814–1350)*, ed. Jeremiah Hackett (Detroit: Gale, 2002), 432–478 [with Bert S. Hall]

#### Articles in peer-reviewed journals (\*under review)

- \* “Founding the Cannon of a Nation: State sponsorship and heavy military industries in the Revolution,” *Transactions of the American Philosophical Society*, submitted Dec. 2025.
- ~~\* “Can we critically mandate wonder? Mineralogical collections at technological universities, their history and purpose,” with John A. Jaszczak, for *Museum & Society* theme issue on “Mobilising Museum Minerals: Critical Approaches to Mineralogical Collections.” Final draft due Jan. 2024. [withdrawn]~~
- \* “Traces of Momentary Industrial Boom: The Defense Plant Corporation of WWII and Scotia Mines,” for *IH: The Journal of the Society for Industrial Archeology*. Submitted Spring 2023; transferred to new journal series Spring 2026.
- “The New Art of Archery: The Tudor Fusion of Arrows and Gunpowder,” *Journal of the Society of Archer-Antiquaries* 66 (2023): 7–15.
- “Beyond Summer Reading: Enabling Covert Student Learning Through a Cross-Campus Connecting Theme,” FIE (Frontiers in Education, IEEE) 2023 Conference Proceedings, Session WIP-38: Attitudes and Perceptions #3, with Laura Fiss, Brett Hamlin, Heather Love, Linda Ott, and Charles Wallace.
- “Technological Determinism(s) and the Study of War,” *Vulcan* 7 (2019): 4–18.
- “Machinery to Match the Materials: Iron Ore Washing in Pennsylvania,” *IA: The Journal of the Society for Industrial Archeology* 41.1/2 (2015 [2018]): 71–92. \*\* SIA Vogel Prize article for 2019.
- “‘My works will be the best in America’: Peter Townsend’s Cannon Foundry, 1815–25,” *New York State Museum Record*, 8 (2018): 79–102, special issue on “Iron in the Hudson Valley,” ed. Martin Pickands, online at [http://www.nysm.nysed.gov/common/nysm/files/nysm\\_rec\\_8\\_ironworks.pdf](http://www.nysm.nysed.gov/common/nysm/files/nysm_rec_8_ironworks.pdf).

- “What is Straight Cannot Fall: Medieval Architectural Statics in Theory and Practice,” *History of Science* 52.4, no. 173 (2014): 347–376 [with Thomas E. Boothby].
- “The West Point Foundry in Larger Perspective,” *IA: The Journal of the Society for Industrial Archeology* 35.1/2 (2009 [2012]): 9–13.
- “Founding a Foundry: the Diary of the Setting-Out of the West Point Foundry, 1817,” *IA: The Journal of the Society for Industrial Archeology* 35.1/2 (2009 [2012]): 25–38.
- “State Building through Building for the State: domestic and foreign expertise in Tudor fortifications,” in *Expertise and the Early Modern State*, ed. Eric Ash, *Osiris* 25 (2010): 66–84.
- “Perceptions of the Performance of Cannon Shot before 1700,” *Journal of the Ordnance Society* 20 (2008 [2010]): 69–80.
- Medieval Gunpowder Research Group Report no. 9: Firepots and Fire Arrows*, (Nykøbing Falster: Danish Medieval Centre, 2009) [co-authored with Robert Douglas Smith]. Online at <http://www.leeds.ac.uk/ims/fieldsofconflict/Report9.pdf>
- “reCOGNition: Medieval Gearing from Vitruvius to Print,” *AVISTA Forum Journal* 19.1/2 (2009): 28–41.
- “Villard’s *Perpetuum Mobile*,” *AVISTA Forum Journal* 18.1/2 (2008): 24–30.
- “C.T. Currelly and the Origins of the Arms & Armour Collections at the Royal Ontario Museum,” *Journal of the History of Collections* 19.1 (2007): 89–114.
- “The Tower Gunners and the Artillery Company in the Artillery Garden before 1630,” *Journal of the Ordnance Society* 18 (2006): 53–66.
- “The Classification of Arms: Henry Percy’s Ramist ideas of weaponry,” *Journal of the Arms and Armour Society* 18.1 (2004): 25–39.
- “The Bishopsgate Artillery Garden and the First English Ordnance School,” *Journal of the Ordnance Society* 15 (2003): 41–51
- “Theophrastus on *Lyngurium* – Medieval and Renaissance Lore from the Classical Lapidary Tradition,” *Annals of Science* 58.4 (2001): 357–79.
- Thomas Harriot’s Ballistics and English Renaissance Warfare*, Durham Thomas Harriot Seminar Occasional Paper no. 30 (Durham, 1999).
- “The Virtuosity of Technology: *The Battle of Brunanburh* and Anglo-Saxon Sword Manufacture,” *Technology & Culture*, 36.4 (1995): 987–99.
- “Canadian Aesthetics of Early Reinforced Concrete,” *IA: The Journal of the Society for Industrial Archeology* 21 (1995): 1–14.

### Contributions to NON-peer-reviewed outlets

- “Alberta, MI - Henry Ford's Utopian Solution to the Depression,” *The Ford Legend*, Official Newsletter of the Henry Ford Heritage Association, vol. 226, no. 1 (Spring 2026), 16-18.
- “Lighthouses of the Keweenaw” for the *Vernacular Architecture Forum* 2024 Conference Guidebook to the Keweenaw Peninsula, MI. (1730 words and map)
- “Military Engineering”, for the Stanford Global Shakespeare Encyclopedia, online at <http://shakespeare-encyclopedia.stanford.edu/entry/military-engineering>. (3,200 words)
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- Dragoş Cosmescu, *Venetian Renaissance Fortifications in the Mediterranean* (Jefferson, NC: McFarland, 2016), under review for *H-War*.
- Thomas Army, *Engineering Victory: How Technology Won the Civil War* (Baltimore: Johns Hopkins University Press, 2016), under review for *The Journal of Military History*.

Michael Livingston, *Never Greater Slaughter: Brunanburh and the Birth of England* (Oxford: Osprey, 2021), for *De Re Militari*, online at <https://deremilitari.org/2022/07/michael-livingston-never-greater-slaughter-brunanburh-and-the-birth-of-england-reviewer-steven-a-walton/> [July 2022].

Peter Purton, *The Medieval Military Engineer: From the Roman Empire to the Sixteenth Century* (Boydell & Brewer, 2018) *Technology & Culture* 62, no. 1 (2021): 294–295.

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Anne Kelly Knowles, *Mastering Iron: The Struggle to Modernize American Industry, 1800–1868* (Chicago: University of Chicago Press, 2013) in [TICCIH Bulletin 76](#) (2<sup>nd</sup> quarter 2017).

Alan Williams, *The Sword and the Crucible: A History of the Metallurgy of European Swords up to the 16<sup>th</sup> Century*, *History of Warfare* 77 (Leiden and Boston: Brill, 2012), *Speculum* 91.3 (2016): 860–861.

Suzanne Nothnagle and Anna Held Audette, *Ruins: Poems and Paintings of a Vanishing America* (Piermont, NH: Bunker Hill Publishing, 2013), *IA: The Journal of the Society for Industrial Archeology* 38.2 (2012 [2015]): 85.

Matteo Valleriani, *Metallurgy, Ballistics and Epistemic Instruments: The Nova scientia of Nicolò Tartaglia. A New Edition*, Max Planck Research Library for the History and Development of Knowledge Sources, 6 (Berlin: Edition Open Access, 2013), *Isis* 106.1 (2015): 178–179.

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Robert Hales, *Islamic and Oriental Arms and Armour: A Lifetime's Passion* (London: Robert Hales, 2013), for *De Re Militari*, online at [www.deremilitari.org/2014/03/hales-islamic-and-oriental-arms-and-armour](http://www.deremilitari.org/2014/03/hales-islamic-and-oriental-arms-and-armour) [March 2014].

Ross Thomson, *Structures of Change in the Mechanical Age: Technological Innovation in the United States, 1790–1865* (Johns Hopkins University Press, 2009), *IA: The Journal of the Society for Industrial Archeology* 35.1/2 (2009 [2012]): 124–25.

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- Anthony Gerbino and Stephen Johnston, *Compass and Rule: Architecture as Mathematical Practice* (New Haven and London: Yale University Press, 2009), *British Journal for the History of Science* 44.2 (2011): 287–289.
- Chandra Mukerji, *Impossible Engineering: Technology and Territoriality on the Canal du Midi* (Princeton University Press, 2009), *Contemporary Sociology: A Journal of Reviews* 40 (2011): 210–211.
- Jonathan Sawday, *Engines of the Imagination: Renaissance Culture and the Rise of the Machine* (Routledge, 2007), *Isis* 101.1 (2010): 207–208.
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- Jan af Geijerstam, *Landscapes of Technology Transfer: Swedish Ironmakers in India, 1860–1864* (Stockholm: Jernkontoret, 2004), *ICON: Journal of the International Committee for the History of Technology* 13 (2007 [2008]): 170–73.
- Louis W. Potts and Stephen L. Nelson, *Watkins Mill: Factory on the Farm* (Kirkville, MO: Truman State University Press, 2004), *IA: The Journal of the Society for Industrial Archeology* 32.2 (2006 [2008]): 70–71.
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- Chiara Frugoni, *Books, Banks, Buttons and Other Inventions from the Middle Ages*, trans. William McCuaig (New York: Columbia University Press, 2003), *Isis* 99.1 (2008): 171.
- Barry Trinder, *The Industrial Revolution in Shropshire*, 3<sup>rd</sup> edition (Chichester: Phillimore, 2000), *IA: The Journal of the Society for Industrial Archeology* 32.1 (2006 [2008]): 84–86.
- The Journal of the Armour Research Society*, vol.1 (2005), for *De Re Militari*, online at [www.deremilitari.org/RESOURCES/REVIEWS/JARS.htm](http://www.deremilitari.org/RESOURCES/REVIEWS/JARS.htm) [2007].
- Brett D. Steele and Tamera Dorland (eds.), *The Heirs of Archimedes: Science and the Art of War through the Age of Enlightenment*, *Dibner Studies in the History of Science* 8 (Cambridge, MA: MIT Press, 2005), *Technology & Culture* 47.4 (2006): 828–830.
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- John Landers, *The Field and the Forge: Population, Production, and Power in the Pre-industrial West* (Oxford: Oxford University Press, 2003), *Technology & Culture* 47.1 (2006): 179–80.
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- Alan R. Williams, *The Knight and the Blast Furnace: A History of the Metallurgy of Armour in the Middle Ages and the Early Modern Period*, History of Warfare vol. 12 (Leiden: Brill, 2003), *The Sixteenth Century Journal* 35.3 (2004): 851–852.
- Die Vielfalt der Dinge: Neue Wege zur Analyse mittelalterlicher Sachkultur*, Forschungen des Institutes für Realienkunde des Mittelalters und der Fruuhen Neuzeit, Diskussion und Materialien vol. 3 (Vienna: Österreichische Akademie der Wissenschaften, 1998) and *History of Medieval Life and the Sciences*, Forschungen... vol. 4 (Vienna: 2000), *The Medieval Review*, issue 03.10.09, online at [www.hti.umich.edu/t/tmr/](http://www.hti.umich.edu/t/tmr/).
- Jean-Denis G.G. Lepage, *Castles and Fortified Cities of Medieval Europe* (Jefferson, NC and London: McFarland & Co. 2002) for *De Re Militari*, online at [www.deremilitari.org/RESOURCES/REVIEWS/review27.htm](http://www.deremilitari.org/RESOURCES/REVIEWS/review27.htm).
- Robert Fox (ed.), *Thomas Harriot: an Elizabethan Man of Science* (Aldershot: Ashgate, 2000), *Isis* 92.4 (2001): 781–2.
- Nicholas Brooks, *Warfare and Society 700–1400* (London: Hambledon, 2000), *Journal of Military History* 65.3 (2001): 781–782.
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- Pinella Travaglia, *Magic, Causality and Intentionality. The Doctrine of Rays in al-Kindi*, Micrologus Library 3 (Firenze: Simsel, 1999), *The Medieval Review*, issue 00.09.02, online at [www.hti.umich.edu/t/tmr/](http://www.hti.umich.edu/t/tmr/).
- James L. Cooper, *Artistry and Ingenuity in Artificial Stone: Indiana’s Concrete Bridges, 1900–1942* (Greencastle, Ind.: Historic Bridge Books/James L. Cooper, 1997), *Technology & Culture*, 40.3 (1999): 715–716.
- Joel Kaye, *Economy and Nature in the Fourteenth Century: Money, Market Exchange, and the Emergence of Scientific Thought* (Cambridge, 1998), *The Medieval Review*, issue 98.09.04, online at [www.hti.umich.edu/t/tmr/](http://www.hti.umich.edu/t/tmr/).

## Presentations

- “Falling out of science and into technology: Robert Erskine, FRS and ... hydraulic engineer and ironmaster?,” History of Science Society (HSS) meeting, Edinburgh, Scotland, 10–15 July 2026.
- “For Neither King nor Country. Engineers’ Mobility in the Age of Revolutions,” Society for the History of Technology (SHOT) Annual Meeting, Luxembourg, EU, 9–11 Oct 2026 (Organizer: Pam Long).
- “Founding the cannon of a Nation: State sponsorship and heavy military industries in the Revolution,” American Philosophical Society symposium on “Science and Society in the Age of Revolutions,” Philadelphia, PA Sep. 26–27, 2025.

- "Inventors, Military Technology, and Patent Disputes at the Turn of the Twentieth Century," Flint Hills Military History Symposium, Fort Riley and Kansas State University, Oct. 18-20, 2024 (organizer: David A. Graff).
- "Ford's Far-Flung Feudal Fantasy: The sawmill to save society in Alberta, Michigan," Society for Industrial Archeology (SIA), 53<sup>rd</sup> Annual Conference, Minneapolis, MN, May 16–18, 2024.
- "A Prosopographical Disentanglement of Anskar the Greater and Lesser: St. Lawrence, His Brother Anskar, and His Other Brother Anskar," International Congress on Medieval Studies, Kalamazoo, MI, 9–11 May 2024 (organizer: the Ps. Society).
- "Speculum Machinarum: Useful, Useless, and Usable Machinery," Lure of the Machine symposium, Princeton, NJ, 14-15 April 2023.
- "A Space for Vitruvian Science in the Mid-Sixteenth Century," History of Science Society (HSS) meeting, Chicago, IL, 17 – 20 Nov. 2022 (Organizer: John Paul Gutierrez)
- "Ruin/Relic/Replica: Naming and speaking of the remains of industry," TICCIH 2022: Industrial Heritage Reloaded, Montreal, 28 Aug. – 3 Sept. 2022.
- "Wartime Industrial Boom: The Defense Plant Corporation and Industrial America, as exemplified by the Scotia, PA," Society for Industrial Archaeology, 50<sup>th</sup> Annual Conference, Portland, OR, 9-12 June 2022 (general call).
- "Allied Expositionary Forces: War Trophies in America after the Great War," Society for Military History, Fort Worth, TX, 30 April – 1 May 2022 (general submission).
- "Navigating the Shoals of Disciplinary with an Interdisciplinary Field," The Futures of STS in Engineering and Polytechnic Universities, Missouri S&T, Rolla, MO, ~~April 14, 2020~~ ~~April 17, 2021~~ September 24, 2021 (Organizer: Kristine Swenson). **INVITED**.
- "History & Heritage Committee: Landmarks Program," ASME Piedmont-Carolina presentation. Feb. 25, 2021.
- ~~"Victorian Science meets the reality of Industrial War: H.S.S. Watkin and Rangefinding and the Royal Artillery, 1870-1918," ICOHTEC, Eindhoven, Netherlands, 25–29 July 2020 (Organizer: Giro Paoletti). [COVID-19]~~
- ~~"Allied Expositionary Forces: War Trophies in America Before, during, and After the Great War," Society for Military History, Arlington, VA, 30 April – 2 May 2020 (Organizer: Heather R. Perry) . [COVID-19]~~
- "Lasagna Bridges? The Joliet Bridge & Iron Co., its history, and questions about a signature bridge detail," Society for Industrial Archeology (SIA), 48<sup>th</sup> Annual Conference, Chicago, IL, 6–8 June 2019 (Organizer: Saul Tannenbaum).
- "Educated at the Foundry," Putnam History Museum, Cold Spring, NY, 9 Feb 2019. **INVITED**.
- "Trophies of War: Commemoration of AND Encouragement to War during and after WWI," World War One in the Copper Country, 28–29 Sept. 2018 (Organizer: Patricia Sotirin).
- "Shotgun Momentum? Diversity in early modern gunpowder mixtures," ICOHTEC, St. Etienne, France, 17–21 July 2018 (Organizer: Brenda Buchanan).
- "Scholastics and Humanists on the Medieval Technological Revolution," International Medieval Conference, Leeds, UK, 2–5 July 2018.
- "From Castle to Fortress: The changing nature of fortification in the 16<sup>th</sup> century," Sixth Symposium Medieval & Renaissance Studies, St. Louis University, St. Louis, MO, 18–20 June 2018.

- Casting a Pilgrims' Badge [Demonstration], International Congress on Medieval Studies, Kalamazoo, MI, 10–13 May 2018 (organizer: AVISTA).
- "Industrial Paternalism Goes to School: Scientific and Technical Education in American Company Towns, 1840–1910," History of Science Society (HSS) meeting, Toronto, ON, 9-12 Nov. 2017 (Organizer: Joanna Behrman)
- "For the Public Good? The Role of the State in the Promotion of Technology in the Long Nineteenth Century," Society for the History of Technology (SHOT) Annual Meeting, Philadelphia, PA, 26–29 Oct 2017 (Organizer: Adam Lucas).
- "Founding the Foundries: Networks of Technology Transfer and Circulation of Technical Experts in Antebellum American Cannon Foundries," ICOHTEC (at ICHS), Rio de Janeiro, Brazil, 28 July 2017 (Organizer: Ciro Paoletti). PRESENTED *IN ABSENTIA* DUE TO ILLNESS.
- "Offense and Defense in the Gunpowder Revolution," International Medieval Conference, Leeds, UK, 7–9 July 2016 (organizer: Steven A. Walton).
- Commentary on "Technologies of Identity: Biometrics, Race, and the Quest for a Quantifiable Body," *Rhetoric, Theory, and Culture Colloquium*, Humanities Dept., Michigan Technological University, 6 Nov. 2015 (Organizer: Scott Marrato).
- "The Rise and Fall of the Appropriate Technology Movement? How the social impacts the technical," D80 conference, Michigan Technological University, Houghton, MI, 24 October 2014 (Organizer: David Watkins). [[YouTube](#)]
- "At the Arsenal Gate: Premodern military activity and the technologies of scale," Society for the History of Technology (SHOT) Annual Meeting, Albuquerque, NM, 6–8 Oct 2015 (Organizer: Daryl Hafter).
- "Nineteenth-Century Iron Ore Washing, or, the oft-forgotten middle step between mine and furnace," Society for Industrial Archaeology, 44<sup>th</sup> Annual Conference, Albany, NY, 27–29 May 2015 (Organizer: Justin Spivey)
- "When Technology Became Intentional: Early-modern self-reflexive analysis of technology," Society for the History of Technology (SHOT) Annual Meeting, Dearborn, MI, November 2014 (Organizer: Adam Lucas).
- Commentary paper on "Crossing Boundaries: Vernacular Science in the Late Medieval and Early Modern Worlds," History of Science Society, Boston, MA, 21–24 Nov. 2013 (Organizer: Ken Mondschein).
- "Geometry, Method, and the Rise of *Trace Italienne* Fortification in the Sixteenth Century," ICOHTEC 22–28 July 2013, Manchester UK (Organizer: Bart C. Hacker).
- Commentary paper on "Putting knowledge to war: research, development and the image of science in the First World War," ICHSTM 22–28 July 2013, Manchester UK (Organizer: Don Leggett).
- "The Goldilocks Problem in Medieval Ordnance: The Early European Guns (EEG) Database," International Medieval Conference, Leeds, UK, 1–4 July 2013 (organizer: Steven A. Walton).
- "An Eligible Station within the United States': The Debate over a National Ordnance Foundry, 1780–1883," Society for Military History, 14–17 March 2013, New Orleans, LA (Organizer: Gerald Fitzgerald).
- "The Captain and the Professor: Inventing the Parrott Gun before the Civil War," *Astride Two Ages: Technology and the Civil War* Symposium at the Smithsonian Institution, Washington,

- DC, November 2012. (Organizer: Bart C. Hacker); also available on C-Span, [www.c-span.org/video/?309361-2/civil-war-battlefield-technology](http://www.c-span.org/video/?309361-2/civil-war-battlefield-technology).
- “Dirty Ores and Ingenious Mechanics: The Origins of American Ore Washing Machinery,” Society for Industrial Archaeology, 41<sup>st</sup> Annual Conference, Cincinnati, OH, 1–4 June 2012 (Organizer: Justin Spivey)
- “Determined Disjunction: Lynn White's *Medieval Technology & Social Change* then and now,” 47<sup>th</sup> International Congress on Medieval Studies, Kalamazoo, MI, 10–13 May 2012 (organizer: Steven A. Walton).
- “Rise of the Machines: Early-Modern Technology and the Making of the Modern World,” History of Technology Speaker Series, York College of Pennsylvania, York, PA, 16 Nov. 2011 (INVITED; Organizer: Ilana Krug).
- “The Origins of Firepower: Combining evidence from battlefield and museum,” *Interpreting Battlefield Finds: Making the Most of Museums*, Royal Armouries Conference in association with The Battlefields Trust, Leeds, UK, 11 June, 2011 [with Glenn Foard] (Organizer: Graeme Rimer).
- “Iron Balaclavas? Observations on Romanesque mail armour from northern Spanish Ecclesiastical carvings, with special reference to face defenses,” 46<sup>th</sup> International Congress on Medieval Studies, Kalamazoo, MI, 13–16 May 2011 (Organizer: Kelly DeVries).
- “Blast from the Past: Remaking Medieval and Renaissance Artillery and Fireworks,” Valencia Community College Humanities Speaker Series, 15 April 2011 (INVITED; Organizer: George R. Brooks).
- “Broadcasting Reality: Technology and Attention in the Premodern World,” at *On Premodern Technology and Warfare*, a symposium in honor of Bert S. Hall, Toronto, ON, 8 November 2010 (organizer: Steven A. Walton).
- “‘My works will be the best in America’: Peter Townsends' Newburgh Cannon Foundry, 1815–25,” at *Iron in New York* Symposium, New York State Museum, Albany, NY, 16 October 2010 (organizer: Martin Pickands).
- “The Archaeology of American Iron and Ordnance: tracing the military-iron-industrial complex in the U.S., 1800–1845,” ICOHTEC, Tampere (Finland), 12 August 2010 (Organizer Bart C. Hacker).
- “Aconcio at Berwick: Importing the *trace italienne* into England, 1560,” International Medieval Conference, Leeds, UK, 11–15 July 2010 (Organizer: Steven A. Walton)
- “Scientific Military Technology for the Empire: Technology of the Royal Artillery as mediator between theory and practice,” Society for the History of Technology (SHOT) Annual Meeting, Pittsburgh, PA, October 2009 (Organizer: Bert S. Hall and Steven A. Walton).
- “Spirit of the Age: Inventors, Scientific Instruments, and the Military at the Royal Artillery Institution, Woolwich,” ICOHTEC, Budapest, 28 July 2009 (Organizer Bart C. Hacker).
- “Modern science meets medieval guns: technical understanding of early modern artillery,” International Medieval Conference, Leeds, UK, 10–14 July 2009 (Organizer: Axel Muller)
- “Ready, Aim, Fire I: Technical Understanding of Gunpowder Weaponry Then and Now,” 44<sup>th</sup> International Congress on Medieval Studies, Kalamazoo, MI, 7–10 May 2009 (Organizer: Glenn Foard).
- “Harriot, Lane and their Contemporaries on Fortification,” Thomas Harriot Quadricentennial Symposium, Eastern Carolina University and Roanoke, VA, 1–4 April 2009.

- “The ‘Usefulness’ of Scientific Instruments in the Early Modern World,” BSHS/HSS/CHSTA Three Societies Meeting, Keble College, Oxford, 4–6 July 2008 (Organizer: Steven Walton).
- “The Rise of Instruments for the Mathematical Professions,” Historical Metallurgy Society Study Day, Cambridge, UK, 14 June 2008 (INVITED; Organizer: Robert D. Smith)
- “Villard de Honnecourt and Perpetual Motion,” 43<sup>rd</sup> International Congress on Medieval Studies, Kalamazoo, MI, 8–11 May 2008 (Organizer: Carl Barnes).
- “reCOGnition – Visualizing the geared mill from Vitruvius to print,” Medieval Academy Meeting, Vancouver, Canada, 3–5 April 2008 (Organizer: Richard Unger).
- Introductory remarks for “Voices of Violence: Worlds of Force, Coercion, and Resistance,” 2007 Penn State History Graduate Student Association Conference, 27 October 2007 [INVITED; Organizer: J. Adam Rogers].
- “We’ll do it our way: The early years of the U.S. Naval Torpedo Station, Newport, Rhode Island,” Third International Conference on Preserving Industrial Heritage, Rijekka (Fiume), Croatia, 12–13 October 2007 (Organizer: Miljenko Smokvina).
- “Panofsky Redux: Gothic Architectural Dynamics and Scholastics (not Scholasticism),” in session *Natural Science and Building Arts in the Late Middle Ages*, Leeds International Medieval Conference, Leeds, UK, 10–13 July 2007 (Organizer: Steven A. Walton)
- “How to Install a Steam Engine in 1845: The West Point Foundry Engine at Mt. Savage Iron Works,” Society for Industrial Archaeology, 36<sup>th</sup> Annual Conference, Philadelphia, PA, 8–10 June 2007 (Organizer: Fred Quivik)
- “Tilting at Windmills: The Promise and Peril of Campus Construction Projects,” 42<sup>nd</sup> International Congress on Medieval Studies, Kalamazoo, MI, 10–13 May 2007 (Organizer: Steven A. Walton)
- “(P)Rethinking Military History, or, Early Modern Thoughts on Jeremy Black’s ‘Thought Book’,” Society for Military History Meeting, Frederick, MD, 19–22 April 2007 (Organizer: Kelly DeVries)
- “Hands-On Learning in the University: Oxymoron or Mandate?” IASTS conference, Baltimore, MD, 2–3 Feb. 2007 (Organizer: Roli Varma)
- “Act Locally, Think (Inter)Nationally: the establishment of the WPF as a regional and national phenomena,” Council for Northeast Historical Archaeology (CNEHA) annual meeting, Tarrytown, NY, October 20–22, 2006 (Organizers: Tim Scarlett and Elizabeth Norris).
- “Scientists and Sailors: US Naval Torpedo Station research after the Civil War,” in the theme sessions on *The Social History of Military Technology*, ICOHTEC, Leicester, England, 15–20 August, 2006 (Organizer: Bart Hacker)
- “What Did They Know and When Did They Know It? Scholastic Interpretations of Architectural Dynamics” [with Tom Boothby], 41<sup>st</sup> International Congress on Medieval Studies, Kalamazoo, MI, 4–7 May 2006 (Organizer: general session)
- “The Military-Industrial-University Complex 80 Years too Early: The Naval Torpedo Station, 1869–1885,” SHOT/HSS, Minneapolis, MN, 3–6 November 2005 (Organizer: open session).
- “Proto-Scientific Revolution or Cookbook Science? Early gunnery manuals in the craft treatise tradition,” *Craft Treatises and Handbooks: the Dissemination of Technical Knowledge in the Middle Ages*, Cordoba, Spain, 6–8 October 2005 (Organizer: Ricardo Cordoba de la Llave).

- “Getting Inside Military Mathematical Practitioners’ Heads,” International Union for the History and Philosophy of Science/Division of History of Science (IUHPS/DHS), Beijing, China, July 24–30, 2005 (Organizer: Lesley Cormack).
- “Mortice or Tenon: Medieval Woodworking in Craft Treatises,” International Medieval Congress, Leeds, UK, 7–11 July 2005 (Organizer: Katherine C. Eagleton).
- “C.T. Currelly and the Origins of Arms and Armor at the ROM/ The Object of North American Armor Collections, 1850–1914,” ICOMAM, Ottawa, Canada, 11–14 June 2005.
- “The Impetus of Being Earnest: Aristotle, Ballistics, and Late Medieval Artillery,” 40<sup>th</sup> International Congress on Medieval Studies, Kalamazoo, MI, May 5–8, 2005 (Organizer: Kelly DeVries)
- “Modeling Reality: Daniel Santbech’s Triangular Trajectories,” Sixteenth Century Studies Conference, Toronto, Ontario, Canada, 28–31 October 2004 (Organizer: Bruce Janacek)
- “Holy Dovetails! St. Joseph and the Illustration of Medieval Woodworking,” 39<sup>th</sup> International Congress on Medieval Studies, Kalamazoo, MI, May 6–9, 2004 (Organizer: Steven A. Walton).
- “Making a Hybrid Career between Science and the Humanities,” WISE Scholars, Penn State University, 4 December 2003 (Organizers; Martin Pietrucha and Dean Snow)
- “Daniel Santbech’s Aristotelian Ballistics, or, ‘What was he thinking?!?’,” History of Science Society (HSS) meeting, Cambridge, MA, 22–25 November 2003 (Organizer: Helen Hattab)
- “Scientific Instruments, Arms, and Warfare,” Penn State HUDDLE with the Faculty, 1 Nov. 2003 (INVITED; Organizer: Mary Jane Stout).
- “Descartes’ Parking Meter, or, what happens when a philosophical idea peters out,” Workshop on the *History and Philosophy of Artificial Life and Intelligence*, Stanford University, 4–5 October 2003 (Organizer: Jessica Riskin).
- “‘The Very Model of an Early Modern Major General’: the 9<sup>th</sup> Earl of Northumberland’s scientific taxonomy of war materiel,” for *Lords, soldiers and craftsmen: arms and armour in the London of Sir Henry Lee*, 4<sup>th</sup> Armourers and Brasiers/Royal Armouries seminar, 22 Sept. 2003 (Organizer: Robert D. Smith).
- “Learning to be a General: Henry Percy and Writing the Military Revolution,” 38<sup>th</sup> International Congress on Medieval Studies, Kalamazoo, MI, May 8–11, 2003 (Organizer: Kelly DeVries).
- “‘Better Living Through Mathematics’: Thinking About Thinking About Early Modern Artillery,” *Re-inventing Early Modern Technologies*, 24 January 2003, Ann Arbor, MI (Organizer: Sabiha Ahmed).
- “Gunners and Personal Scientific Instruments,” Society for the History of Technology (SHOT) Annual Meeting, Toronto, ON, 25 October 2002 (Organizer: Steven A. Walton; president: Janis Langins).
- “Considering the Ideas of Technology Transfer, with special reference to Medieval Architecture,” International Medieval Congress, Leeds, UK, 8–11 July 2002 (Organizer: Robert Bork).
- “Elizabethan Gunners and their Machines: place and (em)placement,” ICOHTEC conference, Granada, Spain, June 24–26, 2002 (Organizer: Brenda Buchanan).
- “The Gunner in Tudor Literature,” 37<sup>th</sup> International Congress on Medieval Studies, Kalamazoo, MI, May 2–5, 2002 (Organizer: Kelly DeVries).

- Commentary paper on “Distant Memories, Distant Wars,” Society for Military History, Madison, WI, April 5–7, 2002 (Organizer: Jerry Cooper).
- “Problems and Lessons from Medieval Technology Transfer,” Penn State University, week-long visit, March 2002 (Organizer: Vickie Ziegler).
- “The Interesting Part of New Military Technology: Fireworks Ingredients and Recipes,” 36<sup>th</sup> International Congress on Medieval Studies, Kalamazoo, MI, 3–6 May 2001 (Organizer: Kelly DeVries).
- “What Medieval Technology has to Offer Penn State” [with Bert S. Hall], Penn State University, 20 October 2000 (Organizer: Vickie Ziegler).
- “Thomas Hood and Armada Angst: How mathematical were the military sciences?,” HSS/CSHPS/BSHS Joint Meeting, St. Louis, MO, 3–5 August 2000 (Organizer: Steven A. Walton)
- “Of Course Leather-Tanning is Scientific: the Rhetoric of Science in Engineering at the University of Toronto before the Depression,” 11<sup>th</sup> Canadian Science and Technology Historical Association (CSTHA) Meeting, Kingston, Ontario, 2 October 1999 (Organizer: Alain Canuel)
- “Preserving the Past and Inventing the Future: Clues to Technology Transfer in Tudor Gunnery Manuals,” 34<sup>th</sup> International Congress on Medieval Studies, Kalamazoo, MI, 6–9 May 1999 (Organizer: Kelly DeVries).
- “Thomas Harriot’s Ballistics and English Renaissance Warfare,” The Thomas Harriot Seminar, St John’s College, Durham, England, 14–16 December 1998 (Organizer: G.R. Batho).
- “The Integration of Artillery into Early Modern England: On the *impetus* and *loci* for technological change,” Society for the History of Technology (SHOT) Annual Meeting, Baltimore, MD, 17 October 1998 (presider: Terry Reynolds).
- “To Baghdad with Pride: Dark Age Sword Trade Reconsidered,” 32<sup>nd</sup> International Congress on Medieval Studies, Kalamazoo, MI, 10 May 1997 (Organizer: Kelly DeVries).
- “‘The Bell-Tower’ and ‘Die Automat’: The Scientific Prehistory of Nineteenth Century Science Fiction,” *Science/Fiction and Popular Culture*, York University, 1 November 1996 (presider: Geoff Bunn).
- “Tools in Service of the Lord: The Iconography of Medieval Woodworking and the Joseph the Carpenter,” Society for the History of Technology (SHOT) Annual Meeting, Charlottesville, VA, 21 October 1995 (presider: Jonathan Coopersmith).
- “Fascination, Fear, and Failure: Automata and Other Simulations of Life,” Smithsonian Institution National Museum of American History Colloquia Series, Washington, DC, 18 July 1995 (Organizer: Nancy Matthews).
- “The Fear and Failure of Technology: The Case of Enlightenment Automata,” Ontario-Quebec Exchange, Toronto, Ontario, 28 October 1994 (Organizer: Janis Langins).
- “Clarence Richard Young and the Aesthetics of Early Reinforced Concrete,” Society for Industrial Archaeology Annual Meeting, Toronto, Ontario, 4 June 1994 (Organizer: E. Phyllis Rose).
- “An Introduction to the Mechanical Arts in the Middle Ages,” 28<sup>th</sup> International Congress on Medieval Studies, Kalamazoo, MI, May 1993 (Organizer: W.T. Swejkowski).

## Advising and Teaching

### Graduate Advising

- Member of Graduate Faculty, Michigan Technological University, 2000–2002; 2012–present.
- Member of Graduate Faculty, Pennsylvania State University, 2008–2012

### Summary, early 2026

	Main advisor	Committee member
Ph.D.	1 in progress	7 completed
Ph.D. fields		1 completed
M.A./M.S.	1 in progress 3 completed	7 completed
B.A./B.S. Hon.	4 completed	

#### **Ph.D. Graduate Theses** – primary advisor (\* expected)

2026\* Kyle Parker-McGlynn, *Digital Industrial Heritage*, Ph.D. in Industrial Archaeology and Heritage, Michigan Tech. Defense scheduled for June 2026.

#### **Ph.D. Graduate Theses** – committee member (\* expected; † lapsed)

- 2020† Sara Louise Howells, *Reviving Funerary Art of Thirteenth-Century France: A Visual Study of Extant Tombs and Drawings of François De Gaignières*, Ph.D. in Art History, Pennsylvania State University.
- 2019 Andrew Mueller, “Fortune and Failure – Gold and Silver Smelting in the Colorado Rockies 1861 to 1900,” Ph.D. in Industrial Archaeology and Heritage, Michigan Tech.
- 2017 Erik Nordberg, *Personality over Policy: A Comparative History of the Founding and Early Development of Four Significant American Manuscript Repositories of Business, Industry, and Technology*. Ph.D. in Industrial Archaeology and Heritage, Michigan Tech [added at last minute for a retiree, so defense role only].
- 2017 Jaak Mäll, *The Technology of the Late Mediaeval European Handheld Firearms on the Example of the So-Called Otepää Handgonne. A Study in Experimental Archaeology*, Ph.D. in Archaeology, Tallinn University, Estonia.
- 2017 Joel Beatty, *On the Logic, Method and Scientific Diversity of Technical Systems: An Inquiry into the Diagnostic Measurement of Human Skin*, Ph.D. in Rhetoric and Technical Communication, Michigan Tech.
- 2015 Haileigh Robertson, *Francis Bacon and the Polychrest Nature of Gunpowder*, Ph.D. in History of Science, York University of York [UK].
- 2011 Richard Simon, *Explaining the Differential Outcomes of Research Topics: Productivity and institutional outcomes in four sciences*, Ph.D. in Sociology, Pennsylvania State University.
- 2006 Young Chun Kim, *Privacy and Communications Technologies in U.S. History: Concepts of privacy in relation to changing communications technologies*, Ph.D. in Mass Communications, Penn State University.

### **Ph.D. Fields Advisor**

2017 Andrea Siotto, field in history of technology for a degree in history, Temple University, Philadelphia.

### **Masters' Graduate Theses – primary advisor**

- 2028 Thomas Sturtevant, thesis exploring the heritage implications of decommissioned military sites, likely Nike missile battery sites.
- 2015 Robert Anthony, *Lenses of Industry: The Rise of Industrial Photography in the United States and the Lake Superior Mining District, 1880–1933*, M.S. in Industrial Archaeology, Michigan Tech.
- 2015 Daniel Schneider, *Wood Type Archaeology: An Inquiry into Worker Skill in Wood Printing Type Manufacture*, M.S. in Industrial Archaeology, Michigan Tech.
- 2014 Carol Griskavich, *Outside the Gates: The Social and Architectural Fabric of the U.S. Steel Town of Gary, IN*, M.S. in Industrial Archaeology, Michigan Tech.

### **Masters' Graduate Theses – committee member (\* expected; † lapsed)**

- 2025 Timothy Maze, "The Implications of Waste Streams at Camp Au Train," M.S. in Industrial Archaeology, Michigan Tech.
- 2025 Joseph Iwanicki, "When Men Can Not Work: A Case Study of CCC Camp Au Train," M.S. in Industrial Archaeology, Michigan Tech.
- 2018† James Benson-Radson, *Title TBA on aviation in the Keweenaw*, M.S. in Industrial Archaeology, Michigan Tech.
- 2018† Ryan Brown, *Title TBA on contact-era sap making in fur trade*, M.S. in Industrial Archaeology, Michigan Tech.
- 2018 Matthew J. Durocher, *Music in the Northern Woods: An Archaeological Exploration of Musical Instrument Remains*, M.S. in Industrial Archaeology, Michigan Tech.
- 2013 Craig T. Bastin, *Resourceful Perspectives: Valuing Industrial Heritage in Small Towns*, M.S. in Architecture, Penn State University.
- 2008 J.L. Cotis, *ANT & Antiquity*, M.A. in History, University of Melbourne. External assessor, compensated.
- 2004 Nicholas Marchek, *Between Functionalism and Fantasy: The relationship between architecture and cyberspace in the information age*, M.A. in Architecture, Penn State University.

### **Undergraduate Theses**

- 2025 Perry Mesloh, *The Rise and Fall of Iron and Copper Dollars: The Role of Unaccounted Currencies in the Upper Peninsula 1850 to 1876*, B.A. History, Michigan Technological University.
- 2024 Ben Imig, *Illiberalism, Labor, and the Spirit of Man in Past and Present and Fors Clavigera: An Answer to the Calamity of the Industrial Age?*, B.A. History, Michigan Technological University.
- 2012 Robert Davis Shaver, *Mass Excellence: The Making of Modern Penn State*, B.A. History, Honors, Penn State University.

- 2005 Kristen Yarmey, *History of Chemistry at Penn State, 1855–1947*, B.S. Chemistry, Honors, Penn State University. • Subsequently published as Kristen A. Yarmey, *Labors & Legacies: The Chemists of Penn State 1855–1947* (State College: PSU Dept. of Chemistry, 2006).
- 2005 Thomas Essinger-Hileman, *Using History and Historical Experiments to Teach Physics*, B.S. Physics, Honors, Penn State University.

## Teaching Experience

### Graduate

#### Michigan Technological University (2012–present)

SS 5500	<i>IA Proseminar: History of Technology</i>	2014–
SS 5503	<i>IA Proseminar: Material Culture</i>	2013–2017

#### Pennsylvania State University (2002–2012)

STS 589	<i>Ethics &amp; Values in Science &amp; Technology</i>	PSU 2002–2009
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### Undergraduate

#### Michigan Technological University (2000–02; 2012–present)

SS 2502/03	<i>European History I/II</i> (formerly SS 3500/01)	2012–2017
SS 3505	<i>Military History of the United States</i>	2012–
SS 3510	<i>History of American Technology</i>	2000; 2021–
SS 3511	<i>History of American Science</i>	2001
SS 3580	<i>History of Science</i>	2015–
SS 3580	<i>Technology and Western Civilization</i>	2020–2022
	Renamed: <i>Technology and Society in History</i>	2023–
SS 3581	<i>Renaissance &amp; Reformation</i>	2016–
SS 3592	<i>Topics: Cultural Borderlands</i>	2016
UN 1001	<i>Perspectives: Knights, Alchemists &amp; Ingenieurs</i>	2001
UN 1002	<i>World Cultures</i>	2000–2002
UN 1025	<i>Global Issues</i>	2013–2014

#### Pennsylvania State University (2002–2012)

STS 100/100H	<i>Ascent of Humanity</i>	2002–2012
STS/HIST 122	<i>History of Science I</i>	2011
STS/HIST 123	<i>History of Science II</i>	2006
STS/HIST 151	<i>Technology and Society in American History</i>	2008
STS 233	<i>Ethics and the Design of Technology</i>	2008, 2009
STS 297B (245)	<i>Globalization and Technology</i>	2007
STS/PHIL 407	<i>Technology and Human Values</i>	2002–2012
STS 497G/476	<i>Technology and War</i>	2004, 2005, 2008, 2011

#### University of Toronto (1996–2000)

HPS 200	<i>Scientific Revolutions</i>	
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HPS 201      *Origins of Western Technology*

York University (summer 1999)

AK/NATS 1850      *Science & Pseudo-Science*