

## **Work Address**

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## **Home Address**

310 Mason Avenue  
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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.

## Academic Grants & Awards

<b>Date</b>	<b>Award</b>
July 2013-July 2015	Research Excellence Fund: Discerning the Picturesque and the Industrial: Hudson River Social Networks in the Diaries of Ellen Kemble, 1845-1905 (\$3,800). <u>Location</u> : Michigan Technological University
July 2010-June 2012	British Academy Small Research Grant, Origins of Firepower: Characterising the earliest surviving small field artillery and hand guns [with Glenn Foard] (£7,200). <u>Location</u> : Multiple museums across Europe
July-December 2009	Leverhulme Visiting Professor, Centre for Medieval Studies, Univ. of Leeds (£52,000). <u>Location</u> : University of Leeds, UK
March 2005	Edwin S. Miller Fellowship in Naval History, Naval War College (\$1,000). <u>Location</u> : Newport, RI
2004-2006	<i>Building Community: Medieval Technology and American History</i> , NEH <a href="#">EE-50095-04</a> (\$160,000). <u>Location</u> : Penn State University and travel to UK
2003-2004	<i>Imagining Nature: Technologies of the Literal and the Scientific Revolution</i> , Folger Institute Seminar (fee waiver and lodging). <u>Location</u> : Folger Shakespeare Library, Washington, DC
Summer 2002	International Summer School for the History of Science. <u>Location</u> : UC-Berkeley, CA
Summer 2001	<i>Experience and Experiment in Early Modern Europe</i> , NEH Seminar (waiver and lodging). <u>Location</u> : Folger Shakespeare Library, Washington, DC
Summer 2001	Summer Seminar in Military History (declined due to conflict). <u>Location</u> : US Military Academy, West Point, NY
Summer 2000	International Summer School for the History of Science (airfare and lodging). <u>Location</u> : Paris, France
1997-98	Ontario Graduate Scholarship. <u>Location</u> : University of Toronto
Summer 1997	UofT Graduate Student Travel Award. <u>Location</u> : Newark Delaware
Summer 1996	UofT Graduate Student Travel Award. <u>Location</u> : London and Oxford, UK
Summer 1995	Dibner Library Visiting Fellow. <u>Location</u> : Smithsonian Institution, Washington, DC
1992-98	Foreign Stud. Differential Fee Waiver. <u>Location</u> : University of Toronto
1992-97	U. of Toronto Open Fellowships. <u>Location</u> : University of Toronto
1991-92	Earl C. Anthony Graduate Scholarship. <u>Location</u> : California Institute of Technology

## Society and Professional Service

- I have been called upon to review individual article manuscripts for the following journals: *Technology & Culture*, *Centaurus*, *The Journal of Medieval Military History*, *Historical Research*, *IA: The Journal of the Society for Industrial Archeology*, and *AmS-Skrifter*.
- I have also been a peer-reviewer of book manuscripts for the University of Wisconsin Press, the Ohio State University Press, Ashgate Press, Westview Press, and the University of Toronto Press.

Editor, <i>Vulcan: the International Journal for the Social History of Military Technology</i> <a href="http://www.brill.com/vulcan">www.brill.com/vulcan</a>	2016–present
Editor, <i>IA: The Journal for the society for Industrial Archeology</i>	2017–present
Associate Editor, <i>Journal of the Ordnance Society</i>	2018–present
Series editor (with Adam Lucas) for <i>Technology and Change in History</i> <a href="http://www.brill.com/tch">www.brill.com/tch</a>	2011–present
Eugene Fergusson prize committee, Society for the History of Technology (SHOT); chair for 2015-16.	2014–2017
<i>Ad hoc</i> proposal and Advisory Panel reviewer for NSF, Social, Behavioral, and Economic Sciences division	2015–2017
Science and Technology (incl. Military) strand coordinator for sessions at the International Medieval Congress, Leeds, UK	2010–present
Book review editor, <i>De Re Militari</i> society <a href="http://www.deremilitari.org">www.deremilitari.org</a>	2000–2014
President, <i>AVISTA</i> society <a href="http://www.avista.org">www.avista.org</a>	2009–2013
Vice-President <i>AVISTA</i> society	2004–2009
Webmaster, <i>AVISTA</i> society	1992–2008, 2010–2013
Review editor for history of science and technology and military history, <i>TMR: The medieval Review</i> <a href="http://quod.lib.umich.edu/t/tmr/">quod.lib.umich.edu/t/tmr/</a>	2006–2008
Layout editor, <i>AVISTA Forum Journal</i>	2006–2010
Research director: <i>imago</i> HST image database <a href="http://www.chass.utoronto.ca/imago">www.chass.utoronto.ca/imago</a>	1999–2000

## University and Departmental Service

Curriculum coordinator, Dept. of Social Sciences, Michigan Tech	2013–present
General Education Council, Michigan Tech	2012–2015; 2016–present
Curriculum ('binder') process LEAN committee	2015
Website liaison, Dept. of Social Sciences, Michigan Tech	2013–present
Website redevelopment committee, Dept. of Social Sci., Michigan Tech	2012–2013
<i>Global Issues</i> taskforce, Dept. of Social Sciences, Michigan Tech	2012–2013
Undergraduate Curriculum Committee chair, STS Program, Penn State	2005–2012
Webmaster, Science, Technology, & Society Program, Penn State	2002–2010

## Research Assistant

Field Editor (history of technology), <i>ORB: On-Line Research Bibliography for Medievalists</i> <a href="http://www.the-orb.net">www.the-orb.net</a>	2005–2008
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Research Assistant for Richard White, <i>The Skule Story: History of Engineering at the University of Toronto, 1873-2000</i> (Toronto: University of Toronto Press, 2001)	1999–2001
Research Aid and HTML programming: UTM $\mu$ SI Scientific Instrument Project, IHPST, University of Toronto <a href="http://www.chass.utoronto.ca/utmusi">www.chass.utoronto.ca/utmusi</a>	1999–2000
History of Science and Technology Journals cataloging: <i>Iter</i> Database Project, Centre for Renaissance and Reformation Studies, U. of Toronto	1997–1999
Technical Writing Tutor: Engineering Writing Center, U. of Toronto	1998–2000

### Service during Graduate School

President, HAPSAT Graduate Student Association, IHPST, Univ. of Toronto	1996-1997
Colloquia coordinator, HAPSAT, IHPST, Univ. of Toronto	1994-1995
Organizer, MEPHISTOS graduate conference, Univ. of Toronto	February 1996
Aid, Templeton Workshop in Science & Religion, Univ. of Toronto	July 1998, 1999
Aid, local organizer, and tour guide, Society for Industrial Archaeology (SIA) conference, Toronto, ON	Summer 1994

### Professional Associations

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

### Media Experience

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)

## Graduate Advising

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

### Summary (1 Sept 2018)

	Main advisor	Committee member
Ph.D.		7 completed
Ph.D. fields		1
M.A./M.S.	3 completed	5 completed 2 in progress*
B.A./B.S. Hon.	3 completed	

### Ph.D. Graduate Theses - committee member

- 2021 Kyle Parker-McGlynn, *Digital Industrial Heritage*, Ph.D. in Industrial Archaeology and Heritage, MTU.
- 2018 SaraLouise Howells, *Reviving Funerary Art of 13<sup>th</sup> Century France: A Visual Study of Extant Tombs and Drawings of François De Gaignières*, Ph.D. in Art History, Pennsylvania State University.
- 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, MTU. Defense Oct. 2017. [added at last minute, 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, MTU.
- 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**

- 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 Technological University.
- 2015 Daniel Schneider, *Wood Type Archaeology: An Inquiry into Worker Skill in Wood Printing Type Manufacture*, M.S. in Industrial Archaeology, Michigan Technological University.
- 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 Technological University.

### **Masters' Graduate Theses - committee member**

- \*2019 Joseph Iwanecki, TBA: *CCC Work camp in Au Train, MI*, M.S. in Industrial Archaeology, Michigan Technological University.
- \*2018 James Benson-Radson, *Title TBA on aviation in the Keweenaw*, M.S. in Industrial Archaeology, Michigan Technological University.
- \*2018 Ryan Brown, *Title TBA on sap making in fur trade*, M.S. in Industrial Archaeology, Michigan Technological University.
- 2018 Matthew J. Durocher, *Music in the Northern Woods: An Archaeological Exploration of Musical Instrument Remains*, M.S. in Industrial Archaeology, Michigan Technological University.
- 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 Honors Theses**

- 2012 Robert Davis Shaver, *Mass Excellence: the making of modern Penn State*, B.A. History), Penn State University.
- 2005 Kristen Yarmey, *History of Chemistry at Penn State, 1855-1947*, B.S. Chemistry, 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, 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 (formerly SS 3500/01)</i>	2012–
SS 3505	<i>Military History of the United States</i>	2012–
SS 3580	<i>History of Science</i>	2015–
SS 3581	<i>Renaissance and Reformation</i>	2016–
SS 3592	<i>Topics: Cultural Borderlands</i>	2016
UN 1025	<i>Global Issues</i>	2013-2014
SS 3510	<i>History of American Technology</i>	
SS 3511	<i>History of American Science</i>	
SS 3580	<i>Technology and Western Civilization</i>	
UN 1001	<i>Perspectives: Knights, Alchemists &amp; Ingenieurs</i>	
UN 1002	<i>World Cultures</i>	

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>	
HPS 201	<i>Origins of Western Technology</i>	

York University (summer 1999)

AK/NATS 1850	<i>Science &amp; Pseudo-Science</i>	
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## Current Projects

### Monographs

*Transitions in Defense: Sixteenth-Century British Fortification* — This volume is currently being 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*, 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 in summer 2018.

*Foundry of a New Nation: The West Point Foundry and Nineteenth-Century American Technology*. — This book explores how the WPF was a nexus for heavy industry in the first half of the 19<sup>th</sup> century. It will to be proposed to Johns Hopkins University Press.

### Articles

"The *Circumstanciae* of Gunpowder: Didactic Recipes, Ingredients, and Readers," submitted to *Ambix*, Dec. 2018.

"Picturesque Living in the Hudson: Social Networks in the Diaries of Ellen Kemble, 1845-1905," in preparation for the *Hudson River Valley Review* (with Carol D. Griskavich and transcriptions by Ariel Terpstra)

"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), contracted June 2015.

"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*.

### Digital History

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

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

## Publications

### Volumes

*The Majestic "Nature" of the North: Thomas Kelah Wharton's Journeys in Antebellum America through the Hudson River Valley and New England*, edited by Steven A. Walton and Michael J. Armstrong. Albany, NY: SUNY/Excelsior Press, 2019.

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://www.nps.gov/Mwac/publications/pdf/Technical\\_Report\\_142.pdf](https://www.nps.gov/Mwac/publications/pdf/Technical_Report_142.pdf)

### Editorial work – sole editor for volume

*Fifty Years of Medieval Technology & Social Change*, AVISTA Series in the Medieval Technology, Science, and Art (London: Routledge, forthcoming). ISBN: 978-1-4724-7549-7. Papers in fall 2014; expected publication 2018.

Special issue on the West Point Foundry, *IA: The Journal of the Society for Industrial Archeology* 35.1/2 (2009 [2012]), 140pp. ISSN: 0160-1040.

*Wind & Water in the Middle Ages: Fluid Technologies from Antiquity to the Renaissance* (Tempe, AZ: ACMRS Press, 2006). ISBN: 978-0-86698-367-9.

*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

### Editorial work – editor for one subsection of a volume

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.

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)

### Editorial work – journal editor

*Vulcan: The International Journal for the Social History of Military Technology*. ISSN: 2213-459X. [www.brill.nl/vulc](http://www.brill.nl/vulc). Managing Editor from March 2016.

*IA: The Journal for the Society of Industrial Archeology*. ISSN 0160-1040. [www.sia-web.org/publications/ia-journal](http://www.sia-web.org/publications/ia-journal). Editor from Jan. 2017.

### Chapters in peer-reviewed edited volumes

"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), pp. 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), pp. 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), pp. 221-36.
- "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), pp. 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: Basiliscope Press, 2007), pp. 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), pp. 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), pp. 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), pp. 17-46.
- "Medieval Science, Technology and Health," in *World Eras*, vol. 4: *Medieval Europe (814-1350)*, ed. Jeremiah Hackett (Detroit: Gale, 2002), pp. 432-78 [with Bert S. Hall]

### **Articles in peer-reviewed journals**

- "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.
- "'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/fieldsconflict/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 Virtuousness 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.

### **Articles - NOT peer-reviewed**

- Entry for "Mill/Millstone" (250 words) in *Encyclopedia of the Bible and its Reception*, DeGruyter, 2019.
- Paper 3B2: "The Allied Expeditionary Forces in WWI: from Encouragement to Commemoration of War," Proceedings of Armistice & Aftermath: A Michigan Tech Symposium on WWI, Sept. 28-29, 2018, online at <http://ww1cc.mtu.edu/symposium/symposium-proceedings/>
- "Wrought Iron Cannon Across the Centuries: An 1869 photo of Mons Meg sent to Daniel Treadwell," *Journal of the Ordnance Society* 22 (2010 [2014]): 5-15.
- "The Diary of the Setting-out of the West Point Foundry," *The Journal of the Society for Industrial Archeology* 35.1/2 (2009 [2012]): 14-24 [transcription of diary by Gouverneur Kemble, with apparatus].
- "The Mystery of the Torpedo," *ICOMAM Magazine* 6 (Oct. 2010): 30-31.
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- "Tilting at Windmills: The Promise and Peril of Campus Construction Projects," *AVISTA Forum Journal* 17.1/2 (2007): 50-53.
- "Review Essay: The Greeneian Reappraisal of the Context of Medieval Technology," *AVISTA Forum Journal* 14.1 (Fall 2004): 25-28.
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- "What Not To Do With Your Bayonet!" *Journal of the Society of American Bayonet Collectors*, 48 (Summer 2004): 12-13.
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### **Book Reviews (• in process)**

- Peter Purton, *The Medieval Military Engineer: From the Roman Empire to the Sixteenth Century* (Boydell & Brewer, 2018), under review for *Technology & Culture*.
- Kirill Rivkin, *Arms and Armor of Caucasus* (Yamna Publishing, 2015), under review for *De Re Militari*.
- Kirill Rivkin and Brian Isaac, *A Study of the Eastern Sword* (Yamna Publishing, 2017), under review for *De Re Militari*.
- Susan Harlan, *Memories of War in Early Modern England: Armor and Militant Nostalgia in Marlowe, Sidney, and Shakespeare*, *Early Modern Cultural Studies 1500-1700* (New York: Palgrave Macmillan US, 2016), under review for *Sixteenth Century Studies*.
- 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*.

Patricia Clare Ingham, *The Medieval New: Ambivalence in an Age of Innovation* (Philadelphia: University of Pennsylvania Press, 2015), *Technology & Culture* 59.4 (2018): 965-966.

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.
- Pamela O. Long, *Artisan/Practitioners and the Rise of the New Sciences, 1400-1600* (Corvallis: Oregon State University Press, 2011), *Aestimatio* 11 (2014): 101-106, online at [www.ircps.org/node/1326](http://www.ircps.org/node/1326) [18 March 2015].
- Patrick M. Malone, *Waterpower in Lowell: Engineering and Industry in Nineteenth-Century America* (Baltimore: The Johns Hopkins University Press, 2009), *IA: The Journal of the Society for Industrial Archeology* 37.1/2 (2012 [2014]): 68.
- 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.
- Serafina Cuomo, *Technology and Culture in Greek and Roman Antiquity* (Cambridge: Cambridge University Press, 2007), *Annals of Science* 69.2 (2012): 295-297.
- Ursula Klein and E.C. Spary (eds.), *Materials and Expertise in Early Modern Europe: Between Market and Laboratory* (University of Chicago Press, 2010), *Centaurus* 53.3 (2011): 236-37.
- 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.
- J.P.D. Cooper, Thom Richardson, and Graeme Rimer (eds.), *Henry VIII: Arms and the Man* (Royal Armouries, 2009), for *De Re Militari*, online at [www.deremilitari.org/REVIEWS/Rimer\\_H8AM.htm](http://www.deremilitari.org/REVIEWS/Rimer_H8AM.htm) [June 2010].
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- Brenda J. Buchanan, *Gunpowder, Explosives and the State: A Technological History* (Burlington: Ashgate, 2006), *Isis* 99.4 (2008): 812-813.
- 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* (Kirksville, MO: Truman State University Press, 2004), *IA: The Journal of the Society for Industrial Archeology* 32.2 (2006 [2008]): 70-71.

- Eric H. Ash, *Power, Knowledge, and Expertise in Elizabethan England* (Baltimore: Johns Hopkins University Press, 2005), *Early Science and Medicine*, 13.4 (2008): 403-404.
- 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.
- Wolfgang Lefèvre (ed.), *Picturing Machines 1400-1700* (Cambridge, MA: MIT Press, 2004), *Isis* 97.1 (2006): 155-56.
- 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.
- Roger B. Manning, *Swordsmen: The Martial Ethos of the Three Kingdoms* (Oxford: Oxford University Press, 2003), *Sixteenth Centuries Studies* 36.4 (2005): 1200-1201.
- Ranier Leng, *Ars Belli; Deutsche taktische und kriegstechnische Bilderhandschriften und Traktate im 15. und 16. Jahrhundert*, 2 vols., *Imagines Medii Aevi: Interdisziplinäre Beiträge zur Mittelalterforschung* Bd. 12 (Wiesbaden: Reichert, 2002), *Technology & Culture* 45.1 (2004): 168-170.
- Pamela O. Long, *Openness, Secrecy, Authorship: Technical Arts and the Culture of Knowledge from Antiquity to the Renaissance* (Baltimore: Johns Hopkins University Press, 2001), *Perspectives in Biology and Medicine* 47.2 (2004): 310-12.
- 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): 851-52.
- Die Vielfalt der Dinge: Neue Wege zur Analyse mittelalterlicher Sachkultur*, *Forschungen des Institutes für Realienkunde des Mittelalters und der Frühen 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/tmr/](http://www.hti.umich.edu/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): 781-2.
- Maurice Keen (ed.), *Medieval Warfare: A History* (Oxford: Oxford University Press, 1999), *Technology & Culture* 41.4 (2000): 836-837.

- 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/tmr/](http://www.hti.umich.edu/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): 715-16.
- 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/tmr/](http://www.hti.umich.edu/tmr/).

## Presentations

- "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 (organizer: XXX)
- "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: ####)
- "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>st</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).
- Invited introductory remarks for "Voices of Violence: Worlds of Force, Coercion, and Resistance," 2007 Penn State History Graduate Student Association Conference, 27 October 2007 [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, Rijeka (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)
- "Hand-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 (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; presider: 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).