

# HYEOK HWEON “H. H.” KANG

## Curriculum vitae

Department of East Asian Languages and Cultures, Washington University in St. Louis  
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### EMPLOYMENT

- 2021–pres. Assistant Professor of East Asian Languages and Cultures; Affiliated Assistant Professor of Comparative Literature and Thought (2024–), Washington University in St. Louis
- 2020–21 D. Kim Foundation Postdoctoral Fellow, Department of the History of Science & Technology, Johns Hopkins University

### EDUCATION

- 2020 Ph.D., History and East Asian Languages, Harvard University
- 2013 B.A., History and Music, *summa cum laude*, Phi Beta Kappa, Emory University

### PUBLICATIONS

#### *Monograph-length Studies*

*Artisanal Heart: State, Craft, and Science in Early Modern Korea* (under contract with The University of Chicago Press)

“Crafting Knowledge: Artisan, Officer, and the Culture of Making in Chosŏn Korea” (Ph.D. Dissertation, Harvard University, 2020)

Winner of *Turriano Book Prize*, International Committee for the History of Technology, 2021

Winner of *ICAS Book Prize* (Best Dissertation in the Humanities), ICAS, 2021

Finalist for *WHA Dissertation Prize*, World History Association, 2021

#### *Peer-Reviewed Articles*

“Global History and the Measures of Early Modern Technology: Europe, East Asia, and the Case of Smoothbore Ballistics,” *Journal of World History* 36, no. 2 (2025): 169–204

“Kinpins at Court: Contraband Diplomacy between Korea, Japan, and Tsushima, 1607–1671,” *Journal of Asian Studies* 83, no. 1 (2024): 116–139

“Reverse Engineering as History and Method: The Portuguese *Espingarda* in Chosŏn Korea,” *History and Technology* 38, no. 2-3 (2023): 144–66

“Korean Chronicles under a Macroscopic Lens: Towards a Digital Infrastructure in Premodern Korean Studies,” with Michelle Suh, *Korean Studies* 47, no. 1 (2023): 8–33

“How Network Analysis Unravels International Networks of Smuggling History: Criminals in Nagasaki, Japan circa 1667,” *Journal of Cultural Analytics* 8, no. 1 (February 2023): 1–20

“Cooking Niter, Prototyping Nature: Saltpeter and Artisanal Experiment in Korea, 1592–1635,” *Isis: A Journal of the History of Science Society* 113, no. 1 (March 2022): 1–21

“A Korean Military Revolution? Parallel Military Innovations in East Asia and Europe,” with Tonio Andrade and Kirsten Cooper, *Journal of World History* 25, no. 1 (March 2014): 51–84

“Big Heads and Buddhist Demons: The Korean Musketry Revolution and the Northern Expeditions of 1654 and 1658,” *Journal of Chinese Military History* 2, no. 2 (2013): 127–89

### **Peer-Reviewed Book Chapters**

“Firearms, Fluidity, and the Global Technology Circuit: Conflict, 1450–1650,” for *A Cultural History of Technology in the Age of Encounters (1450–1650)*, ed. Mackenzie Cooley (London: Bloomsbury, forthcoming)

“Difference in an Age of Parity: Technology and Global Military History,” in *The Military Revolution and Revolutions in Military Affairs*, ed. Mark C. Fissel (Berlin: De Gruyter, 2022), 29–64

“Nature of Narye: Sound, Spectacle, and the Politics of Performance in Fifteenth-Century Korea, 1392–1592,” in *Routledge Handbook of Asian Music: Cultural Intersections*, ed. Tong Soon Lee (London: Routledge, 2021), 150–73

### **Review Essays and Book Reviews**

Review of Lim Jongtae, *Travel, Reform, and Science and Technology in Eighteenth-Century Korea*, *Journal of the Korean History of Science Society* 46, no. 2 (2024): 427–429

Review of *Technical Knowledge in Early Modern Japan*, eds. Erich Pauer and Ruselle Meade, *Japan Review* 37 (2022): 190–2

“In Pursuit of Truth and Justice: Legal History of Chosŏn Korea and the State of the Field,” *Seoul Journal of Korean Studies* 29, no. 1 (June 2016): 219–27

### **Other Scholarly Publications**

“Silloker,” database and search engine for Korean historical chronicles, June 1, 2022–present, [silloker.com](https://silloker.com). Co-designed with Michelle Suh

“Climate Change’s Fatal Synergy,” *Sense & Sustainability*, May 11, 2015

“The Little Ice Age: Heterogeneity of Impact and Japan’s Success Story?,” *Sense & Sustainability*, December 5, 2014

“The Little Ice Age: History of Climate-Induced Crisis in Europe and East Asia,” *Sense & Sustainability*, October 15, 2014

### **WORKS IN PROGRESS**

“Beyond Technological ‘Traditions’: The Case of Steam Engines in East Asia” (journal article in progress)

“Imaging Historical Material Culture: Examining Korean Scaphe Dials under the Lens of X-Ray Computed Tomography,” with Paul Wilson, and Sarah Chard-Cooper (journal article in progress)

“Tactics Before Technics: Korean Perception of Japanese Wartime Technology, 1592–1598” (journal article in progress)

“Global Cooling, Bed Stoves, and the Rhetoric of Efficient Design in Eighteenth-Century Korea” (journal article in progress)

“Questioning Gendered Science: Poisons, Taboo, and Women’s Knowledge in the Late Chosŏn” (conference paper undergoing revision into an article manuscript)

## **AWARDS, GRANTS AND FELLOWSHIPS**

### ***External***

2024, 21	Northeast Asia Council Korean Studies Grant, Association for Asian Studies
2023–24	ACLS Fellowship, American Council of Learned Societies
2020–22	Mellon Fellowship of Scholars in the Humanities, Stanford University (2-3 years; declined to accept the D. Kim Foundation Postdoctoral Fellowship)
2020–21	Postdoctoral Fellowship, D. Kim Foundation for the History of Science and Technology in East Asia
2021	Turriano ICOHTEC Book Prize, Juanelo Turriano Foundation and the International Committee for the History of Technology
2021	ICAS Book Prize (2019–2020), Best Dissertation in the Humanities in English, International Convention of Asia Scholars
2019–20	Mellon/ACLS Dissertation Completion Fellowship, ACLS
2019–20	Dissertation Fellowship, D. Kim Foundation for the History of Science and Technology in East Asia (declined to accept the Mellon/ACLS DCF)
2017–19	Korea Foundation Fellowship for Graduate Studies, Korea Foundation
2018	Joan Cahalin Robinson Prize, Society for the History of Technology
2018	Russell F. Weigley Graduate Travel Grant, Society for Military History
2017	Bernadotte E. Schmitt Research Grant, American Historical Association
2012	World History Association / Phi Alpha Theta Student Paper Prize (undergraduate division)
2012	Gold Medal, Chinese Speech Competition, Confucius Institute (full ride to Nanjing University for a master’s degree, declined)

### ***Internal***

#### **Washington University in St. Louis**

Humanities Symposium Grant (2025), with Marjan Wardaki and Diana Montañó; Roland Grimm Travel Award (2022, 2024); Seeding Projects for Enabling Excellence and Distinction (SPEED) in Research (2022–23); Summer Faculty Research Grant (2023); Internal Nominee for the National Endowment for the Humanities (NEH) Summer Stipend Competition (2023); Global Qing and Its Legacies Grant (2022)

#### **Harvard University**

Asia Center Winter Research Travel Grant (2017); Derek Bok Certificate of Distinction in Teaching (4 times) (2016–17); Nominee for Star Family Prize for Excellence in Advising (2016); Korea Institute Summer Research Grant (3 times) (2014–16); Sheldon Traveling Fellowship (declined to accept Korea Foundation Fellowship) (2016–17); Y.B. Min University Fellowship (2014–16); Fairbank Center for Chinese Studies Summer Travel Grant (2015); Reischauer Institute for Japanese Studies Summer Language Grant (2014); Institute for Quantitative Social Sciences Research Grant (2014); Nominee for Presidential Scholar (2013)

### **Emory University**

Charles E. Shepard Scholar for Graduate Studies (2013); Burt and Betty Shear Award (one of two seniors selected from a graduating class of 1,400) (2013); Matthew A. Carter Citizen-Scholar Award (2013); George Cuttino Scholarship for Research Overseas (2012); Clio Prize for Best Junior/Senior Colloquium Paper (2012); Woodruff Library Undergraduate Research Award (2012); Fox Center for Humanistic Inquiry Fellowship (2011–13); Third Place in Original Music Composition, Arts Showcase (2011); William-Lemonds Grant (2011); Dewey-Hinton Scholarship (2011); Emory Scholars Summer Study Abroad Award (2011); Scholarly Inquiry and Research Summer Research Grant (3 times) (2010–12); Scholarly Inquiry and Research Conference Grant (2 times) (2010–11); Center for Creativity and Arts Grant (3 times) (2010–12); Best Presentation Award, Scholarly Inquiry and Research Symposium (Humanities and Arts Category) (2 times) (2010–12); Kemp Malone Scholar (full scholarship) (2009–13)

### **PRESENTATIONS**

#### ***Invited Talks***

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|------|---|
| 2025 | “Reworking Chosŏn: 3D Modeling and Virtual Exhibitions,” Digital Age Symposium, Center for East Asian Studies, University of Kansas   |
| 2025 | “Precious Metals, Saltpeter, and the Little Ice Age,” Maya Stiller’s graduate seminar on eco-criticism, University of Kansas  |
| 2025 | “The Wicked Factory? Artisans, Ethics, and Reform in Sixteenth-Century Chosŏn,” Korean Treasures at Harvard Series, Harvard University  |
| 2024 | “Engineering and the Confucian State in Early Modern Korea,” American Association of Teachers of Korean Colloquium  |
| 2023 | “Artisanal Heart: Engineering and Statecraft in Early Modern Korea,” East Asian Studies, Brown University   |
| 2023 | “Artisanal Heart: The Vernacular Engineers of Early Modern Korea,” Korean Humanities Speaker Series, the Center for East Asian Studies, Stanford University   |
| 2022 | “Reading Artisanal Knowledge from 16 <sup>th</sup> century Korea,” Cornell Classical Chinese Colloquium, the Mario Einaudi Center for International Studies, Cornell University   |
| 2022 | “Early Modern Science as Seen Through Late Chosŏn Military Workshops: Focusing on Niter Knowledge” (조선후기 군영공방으로 보는 근세 과학사: 염초 지식을 중심으로) (in Korean), Sungkyunkwan Seminars in Historical Studies, Sungkyunkwan University |

- 2022 “The Artisanal Heart: Craft and Experimentalism in Early Modern Korea,” Minnesota Colloquium for the History and Philosophy of Science, Technology, and Medicine, University of Minnesota
- 2022 “Artisan Squad: The Experimental Workshop in Early Modern Korea,” Aftermath of the East Asian War of 1592–1598 Webinar Series, Autonomous University of Barcelona
- 2021 “Prototyping Niter: Experimentalism and Technological Practice in the Late Chosŏn Military Workshops” (조선후기 군영공방에서의 실험과 기술적 실천) (in Korean), Science in Historical Perspective, Seoul National University
- 2021 “The East Asian War: A Technological History,” for undergraduate class on Korea History through Film, Harvard University
- 2021 “Reverse-Engineering the Gun: The Portuguese *Espingarda* in Chosŏn Korea,” American Society of Arms Collecting, Prescott
- 2021 “Boiling Saltpeter: Espionage, Experiment, and Vernacular Science” (염초 달이기: 염탐, 시험 그리고 조선후기의 버나쿨러 과학) (in Korean), Chosŏn History of Science Seminar Series, Seoul National University
- 2015 “Technologies in Korean History: A Broad Sweep,” training session for interns at the MIT International Science and Technology Initiatives (MISTI), Massachusetts Institute of Technology

#### ***At Conferences and Workshops***

- 2025 “Veneers of Circulation: Knowledge of Saltpeter in Eighteenth-Century Korea and the Politics of the Go-Betweens,” Korean Society of History of Science International Workshop, Seoul National University
- 2025 “‘My Humble Explanation of Things’: A Korean Physician’s Collecting of Chinese Recipes, Foods, and Useful Things,” History of Science Society annual meeting, New Orleans
- 2023 “Military Technology as Literacy: Technical Knowledge in Korean Military Workshops,” conference on Mastering of Materialities: Resources and Technology in Post-Imjin East Asia,” Autonomous University of Barcelona
- 2023 “The Codification of Technical Knowledge in Korean Military Workshops, 1592–1635,” the 16<sup>th</sup> International Conference on the History of Science in East Asia, Frankfurt
- 2023 “Silloker: Towards a Digital Infrastructure for Korean Historical Chronicles,” conference on Tools of the Trade: The Way Forward, Harvard University
- 2022 “Vernaculars of Making: Artisanal Literacy through Image and Script,” History of Science Society annual meeting, Chicago
- 2022 “From Envoys to Army Shops: Saltpeter and the Infrastructure of Craft Knowledge in Late Chosŏn Korea,” Association for Asian Studies annual meeting, Honolulu
- 2022 “Silloker: Towards a Digital Turn in Premodern Korean Studies,” workshop on

## Digital Humanities and Korean Studies, University of Copenhagen

- 2022 “Making for the Home: Poisons, Taboo, and Women’s Knowledge in 18th-Century Korea,” Modern Language Association annual meeting, Washington
- 2022 “Cooking Niter, Prototyping Nature: Saltpeter and Artisanal Experiment in Korea, 1592–1635,” working group on Craft, Technology, and Material Culture in Early Modern Asia, held online by the Consortium for History of Science, Technology, and Medicine (CHSTM)
- 2021 “My Humble Explanation of Things (*Somun sasöl*): A Source Reading,” 4<sup>th</sup> New Frontiers in Premodern Korea Studies, held online by the Korea Institute, Harvard University
- 2021 “The Politics of Technology Choice: The Gun Debate in Chosŏn Korea,” workshop on The Multifarious Reception of the Harquebus, held online by the Autonomous University of Barcelona
- 2021 “With an “Artisanal Heart”? How Korean Scholars Tinkered with Pneumatics and Natural Philosophy in the Early Nineteenth Century,” History of Science Society annual meeting, New Orleans, held online due to COVID-19
- 2021 “Out of Thick Air: Western Pneumatics in Nineteenth Century Korea,” the Inaugural Conference for the Korean Studies Research Network, Iowa, held online due to COVID-19
- 2021 “Collaborating Hands: Artisan, Scholar, and New Technological Knowledge in Sixteenth Century Korea,” the 26<sup>th</sup> International Congress of History of Science and Technology, Prague, held online due to COVID-19
- 2020 “Cooking Niter in Korea: Espionage, Experiment and Vernacular Science,” working group on Early Modern Science, held online by the Consortium for History of Science, Technology, and Medicine (CHSTM)
- 2019 “A Wheellock Landmine: Artisan, Scholar and Technological Knowledge in Seventeenth Century Korea,” Society for the History of Technology annual meeting, Milan, Italy
- 2019 “The Workshop: Knowledge, Technology and the Military in Chosŏn Korea,” workshop hosted by the D. Kim Foundation, Seoul
- 2019 “Matériel Matters: Trade and Diplomacy across the Korea Strait,” conference hosted by The World Consortium of Korean Studies, Leiden University
- 2018 “Divine Machine? Korea’s Reception of the Gun,” Society for History of Technology annual meeting, St. Louis
- Winner of the Joan Cahalin Robinson Prize for the best presented paper
- 2018 “Divergence in an Age of Parity: Musketry and Marksmanship in Western Europe and East Asia,” Society for Military History annual meeting, Louisville
- 2018 “Accurizing the Gun: Tactics and Technologies in East Asia,” Chinese Military History Society annual meeting, Louisville
- 2017 “Gunrunning Diplomacy: Military Trade across the Korea Strait,” Association for

- Asian Studies annual meeting, Toronto
- 2015 “Performing Gunpowder: The Technology of Court Rituals in Chosŏn Korea,” Harvard East Asia Society Graduate Student Conference, Harvard University
- 2013 “The Troubadour’s Tournament: From Drilling Manuals to Narrative Songs in Late Chosŏn Korea,” Association for Asian Studies annual meeting, San Diego
- 2013 “Performing Military Knowledge in Korean Armies: P’ansori and the Late Chŏson Military and Social Reforms,” 42<sup>nd</sup> International Council for Traditional Music, Shanghai
- 2011 “What’s Driving Fusion *Haegŭm*? New Accessibility and the Question of Authenticity,” Society for Ethnomusicology Southeast and Caribbean Chapter (SEMSEC) meeting, Nashville
- 2011 “Managing Historicity and Accessibility: *Nanyin* of Quanzhou” Association for Chinese Music Research Meeting, Association for Asian Studies annual meeting, Philadelphia

### ***Campus Talks***

- 2022 “Minimum Viable Product (MVP) for Digital Humanities,” graduate seminar on East Asian Print Culture and Society: Women in Print, Washington University in St. Louis
- 2021 “Crafting Niter, Imitating Nature: Saltpeter and Artisanal Experiment in Seventeenth Century Korea,” History of Science, Medicine, and Technology Colloquia, Johns Hopkins University, held online due to COVID-19
- 2019 “Military Artisanry: A Way of Making and Knowing,” working group on Korean Studies, Harvard University
- 2017 “Korea’s Gunpowder Army: War, Technology, and Transformation,” for undergraduate class on Traditional Korea, Harvard University
- 2017 “Digital Humanist as Historical Detective: Network Analysis of Arms Trafficking between Japan and Korea, 1677,” series on Digital Humanities, hosted by the Harvard-Yenching Library
- 2015 “Closing of the Steppes? Russo-Qing Conflicts in World-Historical Perspective,” working group on Central Eurasia, Harvard University

### **TEACHING**

#### ***Washington University in St. Louis***

- |            |   |
|------------|---|
| Instructor | Korean Civilization   |
| Instructor | Guns, Tobacco, and Sweet Potato: A History of Material Culture  |
| Instructor | Nature, Technology, and Medicine in Korea   |
|            | Founded the student-run journal <i>WashU Ventures in Korean Studies</i> whose first two volumes are available as paperback on Amazon ( <a href="#">link</a> ) |
| Instructor | Kitchen, Studio, Factory: Making in East Asia (Course website: <a href="#">link</a> )   |

Featured in *The Ampersand*, “New course explores craft cultures in East Asia,”  
June 15 2022 ([link](#))

## ADVISING

### ***Graduate Advising (Washington University in St. Louis)***

Charry Kang, Ph.D. in East Asian Languages and Cultures (in progress), co-supervisor, 2024–  
Chang Xu, Ph.D. in History (2024), dissertation committee member, 2024  
Pei-Hsu Lin, Ph.D. in History (in progress), directed studies, doctoral qualifying exam, and  
prospectus, 2023–24; Mentored Teaching Experience, 2022  
Ran Wei, Ph.D. in Japanese & Comparative Literature (in progress), Humanities Digital Summer  
Workshop, 2022  
Huang Gang, Ph.D. in Chinese & Comparative Literature (in progress), Mentored Teaching  
Experience, 2021  
Zoe Richters, M.A. in East Asian Studies, thesis committee member, 2024  
Campbell Stuart, M.A. in East Asian Studies, thesis committee member, 2022

### ***Undergraduate Advising (as Vice-Chair of Fellowships, Lowell House, Harvard University)***

Sophia Lugo (Schwarzman Scholar, 2017)  
Adela Kim (Dumbarton Oaks Humanities Fellow, 2017)  
Reylon Yount (Marshall Scholar, 2017)  
Garrett Lam (Rhodes Scholar, 2016)  
Rivka B. Hyland (Rhodes Scholar, 2016)

## PROFESSIONAL SERVICE

### ***To the Discipline***

Co-Chair, Forum for the History of Science in Asia, History of Science Society, 2025–  
Inaugurated the annual Joseph Needham Foundation Awards (Research Grant and Essay Prize)  
Best Article Prize Committee, Maurice Daumas Prize, International Committee for the History of  
Technology (ICOHTEC), 2022  
Best Presentation Prize Committee, Joan Cahalin Robinson Prize, Society for the History of  
Technology, 2021  
Environmental History Fellow, *Sense & Sustainability* (501C3 Non-profit), 2013–15

### ***Reviewing and Consulting***

Editorial Board (Consulting Editor), *Journal of the History of Ideas*, 2022–present  
Consultant, “Globalization and Creation of Korean Historical Contents through Gamification,”  
Economics, Humanities and Social Research Council, South Korea, 2022



Manuscript referee for journals, *Technology & Culture*, *Isis: A Journal of the History of Science Society*, *Asian Studies Review*, *International Journal of Asian Studies*, *Journal of Global History*

Contributor, “About the Cover,” *Harvard Journal of Asiatic Studies* 77.1 (June 2017), 2017

### **University and Department Service**

Co-organizer, “East Asian Medicine Week,” a series of talks, a gala, and library tour, in collaboration with the Medical School Library, to be held in October 2024 ([link](#))

Search committee, up to two tenure-track positions in Japanese Studies, Department of East Asian Languages and Cultures, Washington University in St. Louis, 2024

Search committee, lecturer in Korean Studies, Department of East Asian Languages and Cultures, Washington University in St. Louis, 2023

Faculty lead, Humanities Digital Summer Workshop, 2022

Co-convenor, EALC Public Lecture Series, Department of East Asian Languages and Cultures, Washington University in St. Louis, 2021–

Member, Graduate Committee, Department of East Asian Languages and Cultures, Washington University in St. Louis, 2021–

Member, “Science in the Public Square,” project funded by the Incubator for Transdisciplinary Futures, Washington University in St. Louis, 2021–23

Co-founder, Korean Studies Working Group, Harvard University, 2017–18

Resident Tutor, Lowell House, Harvard University, 2014–16

Nominated for the 2016 Star Family Prize for Excellence in Advising

Vice-Chair of Fellowships, Lowell House, Harvard University, 2014–16

Graduate Fellow (Cultural & Intellectual Fellow), Dudley House, Harvard University, 2013–15

### **Events Organized or Coordinated**

Moderator, “Ginseng for the Qa’an,” panel at the 7<sup>th</sup> New Frontiers in Premodern Korea Studies, held online by the Korea Institute, Harvard University, 2024

Co-organizer, with Sau-Yi Fong, “Military Crisis and Early Modern Entanglement,” panel at the 16<sup>th</sup> International Conference on the History of Science in East Asia, Frankfurt, Germany, 2023

Co-organizer, with Eric M. Gurevitch, “Vernacular Sciences in Asia,” panel at the History of Science Society annual meeting, Chicago. Sponsored by the Forum for the History of Science in Asia, 2022

Organizer, “Science and Artisanal Knowledge: Towards a Global History,” panel at History of Science Society annual meeting, New Orleans, held online due to COVID-19, 2021

Coordinator, “1<sup>st</sup> Annual Joint Atlantic Seminar for the History of East Asian Science, Technology, and Medicine (JAS-EASTM),” conference hosted by Johns Hopkins University, held online due to COVID-19, 2021

Graduate Coordinator, “Making History: Technologies of Production in East Asia’s Past,” workshop at Harvard University, 2019

Organizer, “Assimilating the Gun: Military Technology in the Long Sixteenth Century,” panel at the Society for the History of Technology annual meeting, St. Louis, 2018

Organizer, “The Frontiers of Global Military History: Military Technology and Inner and East Asian Warfare,” panel at the Society for Military History annual meeting, Louisville, 2018

Organizer, “Smugglers, Castaways and Sailors: Informal Diplomacy in Early Modern East Asia,” panel at the annual meeting of the Association for Asian Studies, Toronto, 2017

Graduate Coordinator, “Receptions, Transformations and Innovations: Transcultural Discourses in Korean Art,” conference at Harvard University, 2016

## **RESEARCH LANGUAGES**

Korean (native); Chinese, Japanese, Spanish (advanced reading, speaking, and writing)

Literary Sinitic/Classical Chinese, Manchu (reading proficiency)

## **PROFESSIONAL MEMBERSHIPS**

American Historical Association

Association for Asian Studies

History of Science Society

Society for the History of Technology

International Committee on History of Technology

Phi Beta Kappa, honor society (2012 induction)

Phi Alpha Theta, history honor society (2012 induction)

Phi Eta Sigma, honor society (2009 induction)