

2024

INVENTING A NEW DISCIPLINE

SEVENTH ANNUAL BULLETIN

The Initiative for the Science of the Human Past at Harvard and our Max Planck-Harvard Research Center for the Archaeoscience of the Ancient Mediterranean wrapped up 2024 with a wide variety of new projects, findings, and collaborators from across the globe. In focus are new insights from Ancient DNA on human history and malaria, and our research on African American Genetic Legacies.

By Andy Chen and Emma Hammack

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FROM PROFESSOR McCORMICK'S DESK

Thanks to your support, the Science of the Human Past has carried forward its crucial work. Over the past year, we have expanded our research collaborations and outreach, as we have supported early-career scholars with fellowships and innovative programming. Our recent partnerships with museums and cultural institutions are bringing our research to new audiences.

Among all the magnificent 2024 successes, our first MHAAM PhD dissertation's breakthrough ([Michel et al. 2024](#)) unlocking the elusive ancient DNA of malaria excites me the most. Finally, we will be able to see malaria's role--suspected but never proven--in the rise and fall of civilizations.

To our donors: thank you. Recent developments have directly and negatively affected our group's research. Now, more than ever, your generosity fuels every part of our mission from fieldwork and data analysis to lectures, exhibitions, students, and community engagement. As we look ahead in this time of turmoil, your ongoing support—through renewed contributions and by introducing new friends and collaborators to the Science of the Human Past—will be vital in helping us expand our discoveries and their impact.

At Science of the Human Past, we welcome the opportunity to connect with those who share our vision. If you or someone in your network is interested in learning more about supporting us and collaborating, we would be delighted to start that conversation. And we hope that you appreciate the new format of our Annual Bulletin and the way it lets you move directly to our publications and events, even on your phone.

In times of change, the questions we ask and the discoveries we pursue are more important than ever. We're grateful to have you alongside us on this journey, and we look forward to the future we'll continue building—together.

Michael McCormick,
Science of the Human Past
Harvard University, June 2025

IN THE PRESS

Researchers from the Science of the Human Past and MHAAM have garnered international attention and accolades for their groundbreaking work and commitment to world-class scientific research at the intersection of history, archaeology, and genetics.



SoHP and Getty Postdoctoral Fellow Victoria Moses's research on the **genetic analysis of Pompeii's plaster casts revealed unexpected patterns of sex and ancestry among the victims, challenging long-held assumptions about family structures and gender roles in ancient Rome.** Her work highlights the doomed city's diverse, immigrant-rich population and was recognized internationally. Vicki discussed her findings in a recent interview with both Australian and Irish news organizations.

Dr. Megan Michel's ancient DNA research has earned wide-spread recognition for its profound impact on malaria studies. By extracting pathogen DNA from teeth, her work reveals traces of malaria in ancient remains—offering remarkable **new insights into the disease's human history, evolution, and relevance to modern public health.**



Congratulations to Science of the Human Past Steering Committee member Dr. Scott Edwards on his election to the American Philosophical Society, which honors exceptional achievement across academic disciplines. He will deliver the keynote lecture at the Society's Fall 2025 Conference, The Future of Field Work: The Promise and Perils of Research in the Twenty-First Century.

Earlier this year, Scott also received the Presidents' Award for Lifetime Achievement from the Society of Systematic Biologists.



SoHP Chair Dr. Michael McCormick is prominently featured in the **Guardian's exploration of how new scientific tools are transforming the study of the past.** The article highlights how advances in genetics, climatology, and material analysis are reshaping our understanding of ancient history, from individual lives to global events.



EVENTS AND PROGRAMS

DNA is helping uncover the forgotten lives and labor of enslaved African Americans at Catoclin Furnace, a key industrial site starting with the Revolutionary War. New research is restoring their place in history where written records fall short.

Speakers: Éadaoin Harney, Harvard
David Reich, SoHP, MHAAM, Harvard
Evelyn Brooks Higginbotham, History, African and African American Studies, Harvard
Jesse Hoffnung-Garskof, History, Harvard
Jason Ur, Anthropology/Archaeology, Harvard
Michael McCormick, SoHP, MHAAM, History, Harvard

Ancient DNA & U.S. History: The Genetic Legacy of African Americans from Catoclin Furnace



Data Science Meets the Human Past



MAPS expands the popular digital atlas (DARMC) project, offering free global geospatial data on historical societies, with insights into health, environment, economy, and society.

Speakers: Henry Gruber, University of North Carolina Chapel Hill
Michael McCormick, SoHP MHAAM, Harvard
Alexander More, UMass Boston
Santiago Pardo Sánchez, Harvard

Migrations, Mediterranean to Slavic: Ancient DNA reveals the Roman Empire's cosmopolitan Danube frontier from Domitian to the Slavs



Stunning new ancient DNA evidence from the SoHP/MHAAM research team reveals the Roman Empire's cosmopolitan society on the Danube-Balkans frontier down to the Slavic migration.

Speakers: Kyle Harper, University of Oklahoma
Michael McCormick, History, Harvard
Iñigo Olalde, University of the Basque Country
Comments: Margaret Andrews, Classics, Harvard
Victoria Moses, Getty Postdoctoral Fellow, MHAAM, Harvard
Solenn Troadec, Lounsbery Foundation Postdoctoral Fellow, MHAAM, Harvard

EVENTS AND PROGRAMS

In November, we hosted a special meeting presenting Dr. Megan Michel's great advance, [Ancient Plasmodium genomes shed light on the history of human malaria](#). This research demonstrates that the aDNA of malaria can be recovered and puts down the first robust markers for a comprehensive map of the endemicity of various forms of malaria over time and space. The implications of this research cannot be overstated. aDNA now shows that malaria was present and likely affected large stretches of Europe by ca.



3000 BCE. Spanish conquerors brought it to the New World, and *P. falciparum* likely traveled in the blood of enslaved Africans. The new capacity to study the plasmodia's evolution over five millennia may unlock more secrets of this deadly but elusive player in human misery and history.

The event featured a response from Dr. Dyann F. Wirth, Richard Pearson Strong Professor of Infectious Diseases, Harvard T.H. Chan School of Public Health, and comments from these



distinguished scholars:

Kyle Harper, Blankenship Chair in the History of Liberty, Professor of Classics and Letters at Oklahoma University

Edward T. Ryan, MD, Director, Global Infectious Diseases, Massachusetts General Hospital; Professor, Harvard Medical School and Harvard T.H. Chan School of Public Health

Christina Warinner, Program Director, Anthropology and Archaeology; Professor, Department of Anthropology, Harvard University

Michael McCormick, Director of MHAAM-Harvard; Francis Goellet Professor of Medieval History, Harvard University

FUTURE LEADERS: OUR STUDENTS AND POSTDOCS



Reed Morgan, SoHP Doctoral Candidate in History, ABD

I was back on campus at Harvard for the past year, teaching courses in the Science of the Human Past and Roman archaeology. I also taught Environmental History to incarcerated men at a local prison through the Tufts Prison Initiative, recruiting guest lectures by Professors McCormick and Walter Johnson of the Department of History. I continue to analyze ancient DNA results from across the ancient and medieval Mediterranean, with new data in the past year from Tunisia, Spain, Albania, and Greece. In the summer, I dug with Harvard professor Margaret Andrews at the Roman site of Falerii Novi, worked in our sister labs in Leipzig, and supervised an undergrad researcher mapping Late Roman ceramic distributions for Mapping Past Societies (MAPS).



Monich Long

Harvard College '26, A.B.
Candidate in History of
Science

I assist Dr. Troadec's research by verifying the accuracy of data compiled from archaeological records and by identifying discrepancies within the database. Additionally, I review documents to highlight concepts that may be unfamiliar to non-specialists. I am currently beginning the process of creating new entries for the database.

Entering this role without prior experience in archaeology or ancient funerary practices, I've gained invaluable insights working under Solenn. It has highlighted how much we can learn about the past by examining burial practices. One of the most inspiring outcomes of the project will be the creation of a new layer for Mapping Past Societies, which will make new information about ancient disease and its transmission in the past accessible to a wide range of people, opening up opportunities for exploration and research.



Anika Christensen

Harvard College '26, A.B.
Candidate in Human
Evolutionary Biology and Music

As Solenn Troadec's research assistant, I've been responsible for helping to create and quality-check her database investigating the relationship between plague presence and human burial practice. I parse archaeological records for relevant evidence to enter into the database, such as evidence of illness in a buried individual, and confirm the accuracy of previously entered records. Additionally, I identify concepts which may be unfamiliar to nonspecialists.

This project has been rewarding not only because it addresses the many facets of epidemic disease response, an issue that endures to this day, but because it strives to do so in a way that is accessible to individuals from a variety of fields and education levels.

FUTURE LEADERS: OUR STUDENTS AND POSTDOCS (CONTINUED)



Victoria Moses

Dual SoHP and Getty
Postdoctoral fellow

Paired with my geneticist counterpart, Dr. Alison Barton, I helped forge new collaborations with archaeological projects and museum collections to investigate movement, connectivity, and identity in Classical Antiquity.

I also presented at the Archaeological Institute of America (AIA) annual meeting and attended the Society for American Archaeology (SAA) meeting.

Lastly, I co-authored the 2024 *Current Biology* paper, “Ancient DNA challenges prevailing interpretations of the Pompeii plaster casts,” which garnered international media coverage—including the New York Times, NPR, Le Monde, CNN, Nature, and more. I was interviewed by ABC (Australia), Ireland’s Classic Hits Radio, the Harvard Crimson, and contributed to Scholastic’s Super STEM.



Solenn Troadec

Dual SoHP and Richard
Lounsbery
Postdoctoral fellow

I have entered the final phases of my research into the health and human past of early medieval France (500 -1000CE). The samples I collected over the summer are now being analyzed at the Max Planck Institute for Evolutionary Anthropology labs. With more than 200 individuals, this study will open new insights into the early medieval history of France.

Beyond scientific publications, this project is also at the origin of a new MAPS layers of atypical burials and tested traditional graves. The database linked to this layer is slowly growing and will become accessible to a wide audience thanks to the work of SoHP undergraduates I have trained in funerary archaeology. My year has also taken me to Brown University to give a guest lecture on the archaeology of pandemics, and to Leeds (UK) to present research at the International Medieval Congress. Results are now starting to come out of the labs... Stay tuned for exciting discoveries!

MAPPING PAST SOCIETIES



In March of 2024, the Science of the Human Past hosted a special interdisciplinary event to inaugurate the new release of the undergraduate-driven digital atlas. Mapping Past Societies (MAPS) replaces and expands the acclaimed Digital Atlas of Roman and Medieval Civilizations (DARMC) which attracted more than a million visits a year. MAPS is an open-access tool that enables users to peer into the human past with cutting-edge data analytics: this includes geospatial coverage of historical societies in Afro-Eurasia, and the overseas Spanish Empire, with a rich selection of data in health, environmental, economic, and social themes, freely downloadable.

The event featured Professors Henry Gruber (History, University of North Carolina, Chapel Hill), Michael McCormick, Alexander More (Manning College of Nursing & Health Sciences, UMass Boston), and MAPS Managing Editor Santiago Pardo Sánchez (College '16, Senior Resident Tutor at Harvard's Adams House), and the remarkable undergraduate, graduate and post-doctoral researchers at Harvard who are using data science to breathe new life into the digital humanities about our past.

Lightning talks by Harvard researchers --undergraduates, graduate students, post-docs and faculty-- highlighted their contributions to MAPS, followed by a conclusion from Prof. Jason Ur, Stephen Phillips Professor of Archaeology and Ethnology in the Department of Anthropology at Harvard University, that rounded out this stimulating gathering.



STEERING COMMITTEE HIGHLIGHTS



Margaret Andrews

In 2024, archaeologist Meg Andrews published the interim report for the Falerii Novi Project, presenting detailed findings from her multidisciplinary excavations and remote-sensing analyses at the Roman town. As a co-investigator on the broader Falerii Novi Project, she also contributed to a [GEOmedia](#) article outlining the project's integrated geophysical and fieldwork methodologies. In addition, Andrews authored a chapter titled "[City and Soul: Marian Processions in Early Medieval Rome](#)" in a 2024 edited volume, reflecting her interest in urban ritual and late antique city life.

Joyce Chaplin

In October, historian Joyce Chaplin participated in a post-show panel—"FRANKLINLAND"—discussing eighteenth-century science and the American experiment, offering historical context to creative interpretations of Benjamin Franklin's legacy at [Ensemble Studio Theatre](#). Her forthcoming book, *The Franklin Stove: An Unintended American Revolution*, supported by a Guggenheim Fellowship, is a pivotal project slated for publication in 2025. Chaplin spoke about the project during a [public lecture](#) as part of the [JCB Reads](#) series in April 2024.



Scott Edwards

Edwards, Professor of Organismic and Evolutionary Biology, received high-profile media coverage in *Harvard Magazine* and *Harvard Gazette* for his bird genome research projects in 2024, notably around flightlessness and extinct species. His lab achieved a landmark breakthrough by [sequencing the nuclear genome](#) of the extinct little bush moa, using DNA from a fossil toe bone to reconstruct both its complete mitochondrial and draft nuclear genomes. This work not only expands our understanding of avian evolution but also exemplifies Edwards's innovative incorporation of ancient DNA into evolutionary genomics.



Peter Huybers

In 2024, climate scientist Peter Huybers advanced understanding of climate change with two high-impact publications. His research in the *Journal of Climate* introduced new methods for predicting regional warming using seasonal temperature patterns, while a second study in *Geophysical Research Letters* [explored how droughts intensify and expand across large areas. Together, these findings deepen our understanding of climate risks and highlight Huybers's leadership in tackling today's most pressing environmental challenges.](#)



STEERING COMMITTEE HIGHLIGHTS



Nick Patterson

Nick Patterson, Senior Computational Biologist at the Broad Institute and Deputy Head in David Reich's lab, co-authored the data descriptor "[The Allen Ancient DNA Resource \(AADR\)](#)," published in *Scientific Data*. This curated compendium of ancient genomes serves as a foundational reference for paleogenomic research. He also helped introduce anclBD, a method for detecting identity-by-descent in ancient DNA, published in *Nature Genetics*, revealing unexpected genealogical links across thousands of ancient Eurasian individuals.

David Reich

Geneticist David Reich remains at the forefront of ancient DNA and population genetics research. In 2024, he co-authored a landmark *Nature Human Behaviour* study revealing the genetic and social diversity of Europe's first farmers and contributed to a *Current Biology* paper that reinterprets the Pompeii plaster casts using ancient DNA. His team also advanced methods for identifying genetic inheritance in ancient populations (*Nature Genetics*) and expanded the [Allen Ancient DNA Resource \(AADR\)](#), a major open-access database published in *Scientific Data*.



Stuart Shieber

Stuart Shieber, Professor of Computer Science, advanced his longstanding contributions to computational linguistics and digital scholarship. He co-authored the paper "[string2string: A Modern Python Library for String-to-String Algorithms](#)," presented as a demo at the 62nd Annual Meeting of the Association for Computational Linguistics (ACL 2024), which showcases a versatile toolkit for solving classical string algorithm problems. Shieber also continued his work as a leading advocate for open-access publishing, contributing to Harvard's model policy guidelines through the Berkman Klein Center.

Daniel Lord Smail

Historian Dan Smail continues to contribute actively to the fields of medieval history and historical anthropology. In April 2024, he delivered a three-part lecture series titled "Magdalena Coline: A Life in Mediterranean Slavery" as part of the prestigious [Lawrence Stone Lectures](#) at Princeton University. He is also serving as Chair of the Committee on Medieval Studies at Harvard, the Editorial Board for *French History Studies*, and as a Visiting Professor at the Università degli Studi di Bergamo in 2024–25.



STEERING COMMITTEE HIGHLIGHTS



Jason Ur

In March 2024, Professor of Archaeology and Ethnology Jason Ur delivered “The Growth and Dissolution of Imperial Landscapes in Northern Mesopotamia” as part of [Bryn Mawr College’s Archaeology Lecture Series](#).

He co-authored a major *In Situ* article on the Mapping Postmortem

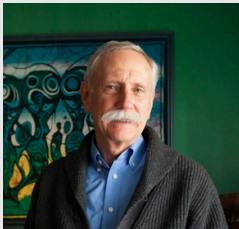
Segregation project in Cambridge’s Old Burying Ground, blending archaeology, history, and GIS to recover overlooked stories of early Black residents. Beyond academia, his perspectives reached broader audiences through coverage in the Wall Street Journal, where he was interviewed about teaching and classroom practices in archaeology.

Christina Warinner

Tina Warinner was promoted to full professor with tenure at Harvard and became Director of the Archaeology Program in Anthropology in 2024. She delivered a public lecture through the Harvard Museums of Science and Culture titled “[The Milk Paradox](#),” which examines lactose intolerance’s complex history, and she co-organized the international [SPAAM Ancient](#)



Metagenomics Summer School. Her [research includes](#) a *Cell* article on the early evolution of plague in Eurasia, a *Nature Communications* article on tracking human migrations in Oceania using dental calculus, and a *Nature* perspective on improving the ethical stewardship of ancient DNA data and metadata.



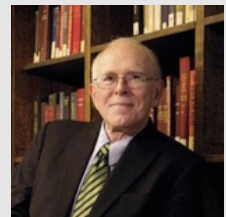
Walter Willett

In 2024, Professor of Epidemiology and Nutrition Walter Willett co-led a landmark study published in [The American Journal of Clinical Nutrition](#) showing that adherence to the Planetary Health Diet reduced the risk of premature death by approximately 30% while also significantly lowering

environmental impact—including greenhouse gas emissions, fertilizer use, and cropland requirements. Additionally, Willett co-authored a [study](#) that highlighted the significant cardiovascular benefits of increasing both the amount and proportion of plant-based protein, especially when accompanied by higher overall protein.

Michael McCormick

Historian Michael McCormick chaired a lecture titled “[Migrations, Mediterranean to Slavic: Ancient DNA reveals the Roman Empire’s cosmopolitan Danube frontier from Domitian to the Slavs](#)”, held in Harvard’s Boylston Hall as part of the Max Planck–Harvard Research Center for the



Archaeoscience of the Ancient Mediterranean (MHAAM) series. He also oversaw the major relaunched project [MAPS \(Mapping Ancient Past Societies\)](#)—formerly DARMC—a digital atlas integrating layers of historical data from shipwrecks to markets across civilizations.

EXPLORE FURTHER

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Join our mailing list, email sohp-owner@lists.fas.harvard.edu

Get to know our Steering Committee, Students, and Postdocs:
<https://sohp.fas.harvard.edu/people-0>

Our key SoHP-affiliated center exploring human and pathogen history through DNA and science, MHAAM (Max Planck–Harvard Research Center for the Archaeoscience of the Ancient Mediterranean): <https://www.archaeoscience.org/>