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Encoding the Image

How does AI affect the Future of Photo History?

Monday, March 31st to Wednesday, April 2nd, 2025

The conference *Encoding the Image: How does AI affect the Future of Photo History?* will explore how historians, curators and archivists have engaged with computer scientists to develop AI tools that would benefit their professional and academic fields. The conference invited key Canadian and international professionals and scholars to present recent and ongoing research projects, highlight and discuss the questions that initiated them, examine the technical solutions that have been developed, and review their practical and theoretical achievements. The Forum will focus on questions dealing with archive and collection management, accessibility and (in-)visibility, and emphasize historical research approaches to large bodies of photographs. Beyond the content of images, special attention will be given to their materiality and their public dissemination. The conference is designed to foster important learning and engagement opportunities for students who will be working at the forefront of technological developments across these disciplines. The conference will gather across three days, each with a unique approach: 1/ Developments; 2/ Dialogues; 3/ Discourses.

This conference is organized in partnership with pictorIA and High Vision by Dr. Thierry Gervais, Professor, Toronto Metropolitan University and Head of The Image Centre's Research Department, which has championed research excellence in photography and lens-based media since 2012 through symposia, publications, fellowships, and collaborations. We acknowledge the support of the Canada Council for the Arts.

All sessions require advance registration, ***please note this event is now sold out.***

Day 1: Monday, March 31, 2025

Schedule

Developments

Experts in digitization, archival systems, and computer sciences will present on the foundational technical and theoretical aspects of AI in cultural heritage contexts. Topics include image digitization, IIIF standards, and computer vision for heritage materials. The day concludes with an off-site visit to Arkiv360 to see their innovative digitization and AI tagging workflows.

Moderated by Dr. Thierry Gervais, Toronto Metropolitan University & The Image Centre

8:30 a.m. — Registration

Venue — Oakham House: Thomas Lounge, 63 Gould St.

9:15 a.m. — Opening Remarks

9:30 a.m. — Human-in-the-disintegration-loop: Digitization and Materiality
Speaker: Laura Margaret Ramsey, The Metropolitan Museum of Art
Venue: Oakham House: Thomas Lounge, 63 Gould St.

Abstract

The transformation of photographic archives into the digital era presented a shift in materiality, interpretation, and meaning. This shift—what we might call the de-materialization of the photograph, altered not only the ontology of the medium but also its epistemological function. Today, with the rapid expansion of born-digital and the digital archive, access to material objects no longer includes their physical handling nor to be understood within finding aids or other contextualizing material. Instead, they are reduced to data, fragments of information parsed by computational systems that privilege pattern recognition over contextual reading.

Digitization standards like FADGI (Federal Agencies Digital Guidelines Initiative), and human-in-the-loop initiatives can be understood as a form of structured resistance against the flattening effects of human and machine-driven image processing and can provide a crucial counterpoint to the disintegration of photographic scholarship. This talk will provide examples of this throughout photographic history, highlighting moments where materiality and context were preserved or lost in the shift to digital archives. It will also propose strategies for integrating ethical, historically informed approaches to digitization, ensuring that photographic archives remain sites of inquiry rather than instruments of erasure.

Bio

Laura Margaret Ramsey is a New York City-based imaging specialist working in the cultural heritage sector. She holds an MA in Film and Photographic Preservation from Toronto Metropolitan University and a BDes in photography from Alberta University of the Arts. She is currently the Associate Manager of Conservation Documentation at The Metropolitan Museum of Art, where she manages the Paper Conservation department's image creation, post-processing and asset management efforts. This includes standard visible, reflected infrared, infrared reflectography, ultraviolet radiation imaging, and photomicrography. She is also an Adjunct Professor in New York University's Moving Image Archiving and Preservation program and has lectured internationally on digital preservation topics.

10:15 a.m. — Reading Albums with AI: Exploring the Content and Materiality of a Collection of Early Japanese Photographs
Speaker: Christopher Kermorvant, Teklia
Venue: Oakham House: Thomas Lounge, 63 Gould St.

Abstract

The advent of visual deep learning models based on convolutional neural networks and transformer architectures has revolutionized the analysis of photographic collections. Trained on large datasets sourced from the Internet, these multimodal Large Language Models (LLMs) excel at analyzing both text and images and are now widely available through online services or open-source implementations. This technology offers unprecedented possibilities for describing,

categorising and understanding photographic collections. This presentation explores three aspects of the application of AI to historical photographic collections. First, we assess the extent to which AI models trained on contemporary photographs can be used to describe and explore historical Japanese photography. Second, we explore the use of existing controlled vocabularies in combination with AI models, assessing their adaptability to a highly specific non-Western collection. Finally, we consider how the materiality of photographic albums can be integrated into a web application designed to enhance the exploration of such collections. This study focuses on the Dubois collection at the Musée Guimet in Paris, which comprises over 19,000 phototypes produced between 1860 and 1920. One of the largest collections of its kind, it is emblematic of the "Yokohama school" (Yokohama Shashin), a genre created for a foreign clientele and depicting an idealized vision of feudal Japan. By applying AI methods to this collection, we aim to provide new tools for historical photographic analysis and digital accessibility in the cultural heritage sector.

Bio

Christopher Kermorvant is an artificial intelligence expert specializing in the analysis and exploitation of historical and cultural documents. With a background in both academia and industry, he holds an engineering degree in computer science (ENSIIE/University of Manchester) and a PhD in machine learning (University of Lyon-St Etienne). He has carried out research at IDIAP (Switzerland) and MILA (Canada). After leading a handwriting recognition research team, he founded TEKLIA in 2015. The company develops AI-based solutions for the digitization and analysis of historical documents (from manuscripts to photographs), working with archives, libraries and museums. Christopher was an associate researcher at Université de Rouen (2017-2023) and currently teaches deep learning for natural language processing at ENSAE-Polytechnic Institute of Paris. His work bridges AI and cultural heritage, making historical documents more accessible through innovative technology.

11:00 a.m. — Coffee Break

11:30 a.m. — Image Availability for AI with the International Image Interoperability Framework
Speaker: Robert Sanderson, Yale University
Venue: Oakham House: Thomas Lounge, 63 Gould St.

Abstract

The International Image Interoperability Framework, or IIIF, is a well-established set of standards for interacting with images over the web and presenting them to humans. Those interactions are very similar to the sorts of capabilities that an AI also requires in order to engage with image content and understand the relationship of the image to the real world. IIIF is comprised of two main sets of functionality, or APIs: segmenting, resizing, rotating and reformatting image files, and just enough structured information to order and describe multiple images to be shown to a user. The image manipulation functions power deep zoom interfaces, but can also save money and improve the accuracy of AI by reducing the number of pixels to be processed. The human-intended description can be interpreted by language models to provide valuable context for the image, such that the AI can better understand how the depicted object relates to its

training corpus of knowledge. The vision-language models can then more accurately read, describe, summarize and otherwise process the image, with the added benefit of working with billions of images around the world. This presentation will introduce the core functionality of the IIIF specifications with a brief digression into semantic metadata (which IIIF does not provide), followed by examples of using IIIF's capabilities to provide easy access to images across collections around the world to facilitate processing with AI technologies.

Bio

Dr Robert Sanderson is the Senior Director for Digital Cultural Heritage at Yale University, where he works with Yale's libraries, archives and museums to ensure that data and other digital efforts are coherent and connected. He is the principal architect for Yale's cross-collection discovery system, LUX, which is built on the Linked Art specifications, for which is the primary editor. Linked Art is an International Council of Museums (ICOM) standard defining a highly usable ontology and API for describing cultural heritage. He is also an editor for the IIIF specifications, and was co-chair and editor for W3C's JSON-LD and Web Annotation standards. He has previously worked at the Getty in Los Angeles, Stanford University, and Los Alamos National Laboratory. His current areas of work and research are at the intersections of cultural heritage, knowledge graphs, data usability and generative AI.

12:15 p.m. — Visual Heritage in the Age of Foundation Models: Public Commons vs. Private Extraction
Speaker: Julien Schuh, pictorIA & Université Paris Nanterre
Venue: Oakham House: Thomas Lounge, 63 Gould St.

Abstract

This presentation explores the tensions between public institutions and private enterprises in managing visual heritage. It examines how large-scale AI foundation models, trained on extensive cultural archives, are reshaping our engagement with collective visual memory. By comparing public initiatives that aim to preserve and share cultural assets with private approaches that drive technological innovation, this talk encourages a reflective dialogue on developing frameworks that support the management of our shared visual heritage in the AI era.

Bio

Julien Schuh is a professor of French Literature (CSLF, Université Paris Nanterre) and deputy director of the MSH Mondes. He co-leads the Consortium-HN pictorIA (https://pictoria.hypotheses.org/), dedicated to the application of artificial intelligence tools in the field of visual culture within the humanities and social sciences.
https://cv.hal.science/julien-schuh

1:00 p.m. — Lunch

2:30, 3:30, or 4:30 pm — Off-site Studio Visit
Speakers: ARKIV 360 Staff
Venue: Studio of Edward Burtynsky., 80 Spadina Ave. Suite 207

Description

Join renowned Canadian photographer Edward Burtynsky and his team for a private tour and demonstration of ARKIV 360. ARKIV 360 is a recto(front)-verso(back) photographic artifact digitization system that uses a rotary table and a system of high-resolution digital cameras to digitize photographs, prints, artist sketches, architectural drawings, and other flat artworks and visual documents, and create advanced catalogues using AI learning. Requires individual registration, all sessions are now sold out.

Day 2: Tuesday, April 1, 2025

SCHEDULE

Dialogues

This day focuses on case studies from North America and Europe, showcasing projects that retrieve, organize, and analyze large collections of digitized photographs. This will be a unique opportunity to learn about and compare projects developed in different contexts and frameworks. This day aims to highlight convergences and divergences in approaches and to discuss how these experiences offer opportunities to collection managers and historians. The IMC Tanenbaum Lecture Series will conclude the day.

Moderated by Dr. Ted Hiebert, Toronto Metropolitan University

8:30 a.m. — Registration

Venue: Oakham House: Thomas Lounge, 63 Gould St.

9:15 a.m. — Introduction

9:30 a.m. — Rudolph P. Bratty Collection & ARKIV 360

Speaker: Chantal Wilson-Mahaffey, The Image Centre

Venue: Oakham House: Thomas Lounge, 63 Gould St.

Abstract

Beginning in 2023, The Image Centre (IMC) digitized more than 21,000 items that comprise the Rudolph P. Bratty Family Collection of press photographs drawn from the New York Times Photo Archive. The IMC worked collaboratively with Arkiv360 to automate the digitization process and effectively capture the collection, along with their folded captions, tear sheets and attached ephemera in a matter of weeks. Post-digitization, Arkiv360 developed AI software that was leveraged to apply keywords and subject information in English and French prior to IMC cataloguing revisions. This case study will review workflows and metadata results, as well as propose new questions that have arisen from developing this project's AI driven cataloguing approach.

Bio

Chantal Wilson is the Manager, Collections and Registration at The Image Centre (IMC). Working with the IMC collection since 2010, Wilson focuses on developing internal policies, assessing appraisals, managing collections, processing acquisitions and advising on preservation issues. Most recently, she has been participating in practical applications of mass digitization and AI

cataloguing principles within a museum context. Wilson holds a Bachelor of Arts, Honours, in Art History from the University of Saskatchewan (2009) and a Master of Arts in Photographic Preservation and Collections Management from Toronto Metropolitan University (2011). As an accredited member of the International Society of Appraisers, Wilson has expertise in photography, photographic materials, photographically illustrated books and works on paper.

10:15 a.m. — Early Visual Culture of the News and Computer Vision: The High Vision Initiative
Speaker: Daniel Foliard, High Vision & Université Paris Cité
Venue: Oakham House: Thomas Lounge, 63 Gould St.

Abstract
This talk will provide an overview of the main research questions underlying High Vision, a funded project (ANR-24-CE38-4079) that combines expertise from the human sciences and computer vision in order to address the challenges posed by the mass digitization of heritage photographs. This research focuses on the archives of four major press photographic agencies (Forbin, Rol, Bain News and Black Star), applying multimodal artificial intelligence to historical investigation. By combining methodologies, these collections are treated as both quantified digital data and as individual archival and historical documents. As High-Vision aligns methods and tools with the actual amplitude of the observed phenomenon, i.e. the advent of an international visual culture, it helps to understand the historical processes that still shape the perception of the world and events by contemporary societies that are saturated with images.

Bio
Daniel Foliard is a historian whose core interest is on modern European imperialisms and their visual archives. His first book Dislocating the Orient: British Maps and the Making of the Middle East, 1854-1921 was published by the University of Chicago Press. *The Violence of Colonial Photography,* his second monograph, was published in English by Manchester University Press in 2022. Foliard has developed an expertise in the historical exploration of sensitive material documenting colonial and imperial contexts. He recently published *Passés contestés et présents numériques* (Contested Pasts and Digital Presents) with Julien Schuh. He is currently coordinating a collaborative research project (High Vision) on the application of computer vision to the photographic archive of early news image agencies.

11:00 a.m. — Coffee Break

11:30 a.m. — Access and Discovery of Documentary Images
Speaker: Lauren Tilton, University of Richmond
Venue: Oakham House: Thomas Lounge, 63 Gould St.

Abstract
How to access and explore images at scale is an ongoing challenge. AI offers avenues for describing, organizing, and revealing documentary images at scale. The talk will begin with a proof-of-concept called ADDI: Access and Discovery of Documentary Images (https://github.com/distant-viewing/addi). Developed for the United States Library of Congress, the project assessed the possibilities and limits of specific computer vision models with attention

to how we might map model results to the features of photographs that drive visual culture analysis. We will then turn to a more recent application of the methods that undergirded ADDI to discuss how recent developments in AI, specifically multimodal large language models (MLLMs), are expanding our methodological toolkit. I'll turn to a new project called Digital Documerica (DigitalDocumerica.org), where we harness the descriptive power of MLLMs to develop a newer approach to exploration for documentary images. The method also offers opportunities to address issues of inaccurate description and bias, which remains an ongoing challenge in AI-inflected description and exploration of images. I'll end with possible future directions for distant viewing of images.

Bio

Lauren Tilton is the E. Claiborne Robins Professor of Liberal Arts and Digital Humanities at the University of Richmond. She specializes in computational approaches to studying 20th and 21st century visual culture. Her most recent co-authored books include *Distant Viewing: Computational Exploration of Digital Images* (Open Access, MIT Press), *Humanities Data in R 2nd Edition* (Springer), and *Computational Humanities* (Open Access, University of Minnesota Press). Her award-winning projects such as Photogrammar.org have received funding from the American Council of Learned Societies, National Endowment for the Humanities, and Mellon. She is Editor-in-Chief of Computational Humanities,an open access journal with Cambridge University Press. She is President of the Association for Computers and the Humanities (ACH), the scholarly association for digital humanities in the United States, and President-Elect of the Association of Digital Humanities Organization (ADHO), the global DH association. She received her PhD in American Studies from Yale University.

12:15 p.m. — Visual Contagions: Integrating Computational and Historical Methods for Investigating Image Circulations

Speaker: Nicola Carboni, University of Illinois

Venue: Oakham House: Thomas Lounge, 63 Gould St.

Abstract

The illustrated press has historically served as a powerful force in shaping visual culture, curating and disseminating imagery that influenced both artists and the wider public. However, analyzing the large-scale circulation of published images and assessing their cultural impact remains a complex challenge, due to the vast volume of visual data and the difficulties of moving beyond the single geographical and temporal context. To tackle this problem, the Visual Contagions project has collected a global corpus of periodicals, dating from 1890 to 1990 and published across 1243 cities in more than 50 countries. Applying computer vision algorithms, the project extracted over 15 million images from these periodicals, which were analyzed, compared for visual similarity, and organized into clusters and collections, enabling the automatic and manual identification of recurring patterns. By examining these images in relation to their spatial and temporal attributes, the project was able to reveal and analyze axes of circulation critical for the visual globalization process. Through case studies ranging from avant-garde movements to the rise of the automobile, this contribution demonstrates how the visual contagions methodology

can help us trace image circulation, uncover visual trends, and analyze the evolution of visual canons on a global scale.

Bio

Nicola Carboni is an Assistant Professor at the iSchool at the University of Illinois. He works at the intersection of knowledge representation and data analysis, using computational methods for modelling, integrating and interpreting historical and cultural data. His current work focuses on spatiotemporal analysis of exhibitions information and on the investigation of temporal variables in literary sources. He previously worked on image globalization, on the semantic exploration of iconographical patterns and on data-driven analysis of Burckhardt's epistolary corpus. Before joining the University of Illinois, he held position as Postdoctoral Researcher in Digital Humanities at the University of Geneva, Digital Humanities Fellow at the Harvard Center for Italian Renaissance Studies, and Marie Curie Fellow at the National Research Center of France.

1:00 p.m. — Lunch

1:30pm — Afternoon Registration

2:00 p.m. — Round Table Discussion

Speakers: Chantal Wilson; Daniel Foliard; Lauren Tilton; Nicola Carboni. Moderated by Dr. Elspeth Brown, University of Toronto

Venue: Oakham House: Thomas Lounge, 63 Gould St.

Under Dr. Elspeth Brown's moderation, Chantal Wilson, Dr. Daniel Foliard, Dr. Lauren Tilton, Dr. Nicola Carboni, who presented their research projects in the morning, will discuss further their impacts in the field of history of photography and collections management. This round table will also be an opportunity for them to engage with the audience.

7:00–8:30 p.m. — Tanenbaum Lecture Series: Landscape, Allegory, Hallucination, PSYOP

Speaker: Trevor Paglen

Venue: George Vari Engineering & Computer Centre, 245 Church St. (ENG-103)

Abstract

Photography's uneasy relationship with "reality" is morphing into the realm of the Weird. The rise of AI marks a watershed moment in the history of visual culture that may prove more significant than photography's own invention. As computer vision and machine learning transform how images are made and seen, photography has entered an uncanny realm where visuality itself becomes synonymous with hallucinations, psychological operations, and digital sorcery.

Bio

Trevor Paglen is an artist whose work spans image-making, sculpture, investigative journalism, writing, engineering, and numerous other disciplines. Paglen's work has had one-person exhibitions at the Smithsonian Museum of American Art, Washington D.C.; Carnegie Museum of Art, Pittsburgh; Fondazione Prada, Milan; the Barbican Centre, London; Vienna Secession,

Vienna; and Protocinema Istanbul, and participated in group exhibitions the Metropolitan Museum of Art, the San Francisco Museum of Modern Art, the Tate Modern, and numerous other venues. Paglen has launched an artwork into distant orbit around Earth in collaboration with Creative Time and MIT, contributed research and cinematography to the Academy Award-winning film Citizenfour, and created a radioactive public sculpture for the exclusion zone in Fukushima, Japan. Paglen is the author of several books and numerous articles on subjects including experimental geography, artificial intelligence, state secrecy, military symbology, photography, and visuality. Paglen's work has been profiled in the *New York Times, the New Yorker,* the *Wall Street Journal, Wired*, the *Financial Times, Art Forum*, and *Aperture*. In 2014, he received the Electronic Frontier Foundation's Pioneer Award and in 2016, he won the Deutsche Börse Photography Prize. Paglen was named a MacArthur Fellow in 2017. Paglen holds a B.A. from U.C. Berkeley, an MFA from the Art Institute of Chicago, and a Ph.D. in Geography from U.C. Berkeley.

Day 3: Wednesday, April 2, 2025

SCHEDULE

Discourses

This day will showcase the work of scholars who have developed and used Computer Vision and Artificial Intelligence tools to fuel their ongoing research or conceive new approaches to photography and its histories. This day offers to discuss "distant viewing" studies addressing iconographical or geographical trends as well as more "localized analyses" interested in the circulation of photographs in specific contexts. It will also be the opportunity to discuss the tools themselves and their biases in the representation of Global South countries and minority groups.

Moderated by Dr. Thierry Gervais, Toronto Metropolitan University & The Image Centre

8:30 a.m. — Registration
Venue: The Image Centre, 33 Gould St.

9:15 a.m. — Introduction

9:30 a.m. — Picture-Work and the Problem of Scale: Historical Antecedents
Speaker: Diana Kamin, Fordham University
Venue: TMU School of Image Arts, 122 Bond St. (IMA-307)

Abstract

The proliferation of image-oriented AI tools over the last two decades has been possible due to the increased availability of large-scale, indexed digital picture collections, or datasets, that have trained generations of AI models. In turn, these AI tools frequently promise to assist the human worker in the management of scale, identifying patterns across vast collections. This paper historizes the connection between scale, knowledge production, and picture collections, looking at how new technologies for managing scale reshape labor and expertise. Specifically, by looking

at 20th century technologies of index cards, microfilm, and compact discs and how they were used to organize and facilitate the navigation of large-scale picture collections, this paper argues that technologies of picture-work are not neutral. Technologies of scale require new materials, new architectures, and new coalitions of expert groups. After looking at historical examples, the paper concludes with attention to current reconfigurations of labor in AI-assisted picture-work.

Bio

Diana Kamin is a senior lecturer in communication and media studies at Fordham University, with a PhD in media, culture, and communication from New York University. Her book *Picture-Work: How Libraries, Museums, and Stock Agencies Launched a New Image Economy* (MIT Press, 2023), identifies the ways in which the practical work of building 20th century image collections lay the groundwork for today's circulation of images as mobile capital. Other publications can be found in *Journal of Visual Culture, Information & Culture, Media-N,* and *Archives of American Art Journal*, among others.

10:15 a.m. — "Therein Lies the Rub": Colliding Epistemologies in Joan and Russell Kirsch's Early Experiments Toward a Digital Art History

Speaker: Frances Cullen, McGill University

Venue: TMU School of Image Arts, 122 Bond St. (IMA-307)

Abstract

In 1957, the computer scientist Russell Kirsch successfully scanned the "first digital photograph." At the time Kirsch considered this accomplishment a preliminary investigation into "the nature of pictorial information," one with foreseeable applications in fields including space exploration, the medical sciences, and metallurgy. By the mid-1980s Joan Kirsch – a printmaker and art historian (and Russell's wife) – had convinced him that his decades of work in the development of Artificial Intelligence tools for image processing had potential to advance knowledge in Art History, too. Together, they launched a project developing an algorithmic means for analyzing artistic style in the oeuvres of Joan Miró and Richard Diebenkorn. This study's scrutiny of an early and formative episode in the development of Digital Art History situates that field's emergence in the 1980s within the longer overlapping histories of photographic digitization, AI, and scientific knowledge production. What material and epistemological affordances, it asks, were wrought from the Kirsches' pioneering effort to forge customized AI tools for addressing Art Historical concerns? How does the fractious relationship that they negotiated between method and technology impinge on our practice of Photo History today, shaping both the questions that we ask and the tools that we use to answer them?

Bio

Frances Cullen is a historian of photography and a PhD candidate in McGill University's Department of Art History and Communication Studies. Her doctoral thesis, "*Real, Raw, and Revolutionary: Analog Photography's True History in the Information Age*," traces the term 'analog''s lineage as a keyword for discussing technological change in the history of photography from the postwar period to today. Before this she studied the history of art, design, and visual culture at the University of Alberta, the material history of photography at Toronto Metropolitan

University, and cinema studies at the University of Toronto. She has also worked with a number of photography, film, and art collections, most notably during two years spent as a student and staff member at the George Eastman Museum; and, later, as a Max Stern Fellow at McGill University's Visual Arts Collection. She has published in Visual Studies, Transbordeur, and Philosophy of Photography.

11:00 a.m. — Coffee Break

11:30 a.m. — Democratizing Access to Historical Stereoscopic Photographs through AI and Virtual Reality

Speaker: Dhruva Gowda Storz, EPFL Switzerland
Venue: TMU School of Image Arts, 122 Bond St. (IMA-307)

Abstract

Stereoscopic photography—the earliest 3D immersive medium—was immensely popular in the 19th and 20th centuries, leaving behind vast collections of stereographs in archives worldwide. These artefacts offer unparalleled three-dimensional windows into historical events, cultures, and perspectives. Despite widespread digitization, stereography's reliance on specialized viewing devices to reproduce the stereo illusion limits the full realization of their immersive affordances when disseminating them through conventional digital modalities. Virtual reality offers promising avenues for revitalizing these collections for contemporary audiences, but the laborious and prohibitively expensive task of manually preparing and restoring stereographs for comfortable viewing in VR at scale is an obstacle to broader dissemination, necessitating new solutions. This research project responds to these challenges by exploring how AI and Image processing can be responsibly used to develop a specialized open-source toolkit for disseminating stereographs through VR. Developed through dialogue with archivists and restoration professionals, the toolkit's core is a modular pipeline for restoring and processing stereographs for VR at scale. The toolkit additionally examines how state-of-the-art AI augmentation methods can be leveraged to imagine novel visualization and interaction paradigms for the medium, facilitating new and effective modes of widespread public access while preserving its historical authenticity and integrity.

Bio

Dhruva Gowda Storz is a PhD candidate at the Laboratory for Experimental Museology (eM+) under the direction of Professor Sarah Kenderdine at EPFL, Switzerland. Dhruva holds a BSc in Physics and Neuroscience from Maastricht University and an MSc in Artificial Intelligence from Imperial College London. He has worked in a variety of roles at both scientific and cultural institutions, where he has led the development of platforms such as LEKHA.cc, an online DIY archive for artists. His early exposure to art and museums in his formative years, his education, and his work have crystallized a keen interest in the intersection of culture and computing, which he explores at eM+ through his interdisciplinary PhD research on visualizing and disseminating historical stereographic photographs through virtual reality.

12:15 a.m. — Historical Work as Pharmacology: On Synthetic Visual Archives and the Transformations of the Past

Speaker: Daniel Foliard, Université Paris Cité
Venue: TMU School of Image Arts, 122 Bond St. (IMA-307)

Abstract

In recent months, there has been a proliferation of synthetic visual archives on stock photography platforms and social media networks. This phenomenon suggests that the advent of image generation technologies is poised to redefine our perception of the past, with significant implications for both collective and individual memory. This discussion aims to critically examine these transformations in the visual representation of the past and explores, perhaps too optimistically, the potential role of photo history in addressing the challenges posed by AI-generated imagery and its inherent distortions. It posits that contemporary developments in image generation are rooted in a longstanding tradition of mimetic imagery, which has always been characterized by unfixity.

Bio

Daniel Foliard is a historian whose core interest is on modern European imperialisms and their visual archives. His first book *Dislocating the Orient: British Maps and the Making of the Middle East, 1854-1921* was published by the University of Chicago Press. *The Violence of Colonial Photography,* his second monograph, was published in English by Manchester University Press in 2022. Foliard has developed an expertise in the historical exploration of sensitive material documenting colonial and imperial contexts. He recently published *Passés contestés et présents numériques* (Contested Pasts and Digital Presents) with Julien Schuh. He is currently coordinating a collaborative research project (High Vision) on the application of computer vision to the photographic archive of early news image agencies.

1:00 p.m. — Lunch

Afternoon sessions moderated by Dr. Heather Diack, Toronto Metropolitan University

2:00 p.m. — The Published Second Sino-Japanese War Photographs: A Digital Historical Forensics Approach

Speaker: Lin Du, National University of Singapore
Venue: TMU School of Image Arts, 122 Bond St. (IMA-307)

Abstract

This study introduces Digital Historical Forensics (DHF) as a methodological framework that integrates traditional media analysis with computational tools to examine the editorial and ideological transformations of published Second Sino-Japanese War photographs. Situating this research within a broader postcolonial history of photography, DHF reconstructs the editorial strategies of the Jinchaji Pictorial, a significant WWII-era photographic publication of the Chinese Communist Party (CCP). By tracing the iterative reuse of images across publications, this study reveals how editorial interventions—cropping, altering, retouching, recaptioning, and repurposing—transformed photographs from informational records into ideological instruments. DHF examines intertextual relationships between images and texts, demonstrating how socialist realism relied on human subjects and textual interventions to stabilize visual meaning. Extending

beyond content-based analysis, DHF maps hidden networks of image dissemination and transformation, reframing historical photography as a dynamic site of contested meaning. Further, this study critically engages with the limitations and biases of AI-driven methods, interrogating the implications of algorithmic tools and datasets in historical research. By examining how computational models interact with fragmentary archives, institutional frameworks, and inherited colonial biases embedded in machine learning processes, this research underscores the methodological stakes of integrating digital tools into visual historiography.

Bio

Lin Du is currently a Postdoctoral Fellow jointly appointed in the Departments of Japanese Studies and Chinese Studies at the National University of Singapore. She completed her PhD at the Department of Asian Languages and Cultures at UCLA, where her dissertation, *"Chinese Photojournalism 1937–1952: Materiality and the Institutionalization of Culture via a Computer Vision Approach,*" utilized advanced computer vision techniques to explore wartime visual media culture. Lin holds an MA from the Regional Studies East Asia Program at Harvard University and a BA in Chinese Language and Literature from Peking University. Her pioneering work in machine learning has been published in the ACM Journal on Computing and Cultural Heritage (JOCCH), and her contributions to humanities research are forthcoming in the Journal of Chinese Cinemas and Asia Pacific Perspectives.

2:45 p.m. — Distant Viewing

Speaker: Lauren Tilton, University of Richmond

Venue: TMU School of Image Arts, 122 Bond St. (IMA-307)

Abstract

How do computers view? How can we harness AI to view images at scale? Distant viewing offers a theory and method for the large scale analysis of images using computer vision. The talk will introduce the concept then turn to specific AI methods for the analysis of images. Specifically, I will look at documentary photography from the United States, and how distant viewing offers methods for access, discovery, and visual culture analysis. The talk draws on Distant Viewing: Computational Exploration of Digital Images with co-author Taylor Arnold and available open access through MIT Press.

Bio

Lauren Tilton is the E. Claiborne Robins Professor of Liberal Arts and Digital Humanities at the University of Richmond. She specializes in computational approaches to studying 20th and 21st century visual culture. Her most recent co-authored books include *Distant Viewing: Computational Exploration of Digital Images* (Open Access, MIT Press), *Humanities Data in R 2nd Edition* (Springer), and *Computational Humanities* (Open Access, University of Minnesota Press). Her award-winning projects such as Photogrammar.org have received funding from the American Council of Learned Societies, National Endowment for the Humanities, and Mellon. She is Editor-in-Chief of Computational Humanities,an open access journal with Cambridge University Press. She is President of the Association for Computers and the Humanities (ACH), the scholarly

association for digital humanities in the United States, and President-Elect of the Association of Digital Humanities Organization (ADHO), the global DH association. She received her PhD in American Studies from Yale University.

3:30 p.m. — Coffee Break

4:00 p.m. — Photography Unbound: Computer Vision as Praxis
Speaker: Emily Pugh, The Getty Museum
Venue: TMU School of Image Arts, 122 Bond St. (IMA-307)

Abstract
In this presentation, I will argue for critical approaches to the application of computer vision (CV) as a tool of research that interrogates both CV itself and notions of (analog and digital) photography. To illustrate this critical approach, I will use examples from research project "Photography Unbound," an exploration using CV of a corpus of 30,000 nineteenth-century photographs from repositories in the US, Europe and Asia. Along with artificial intelligence more broadly, CV in 2025 is, as Joan Schwartz has described photography upon its invention, a "process without a praxis." Because CV algorithms are not yet fully integrated into how we engage with digital images, there is an opportunity to not only use CV as a tool for understanding photography, but also to explore CV itself. Such an approach is particularly important and relevant to photo historical research since, as I will demonstrate, CV has to a significant extent been shaped by specific understandings of analog photography.

Bio
Emily Pugh is a Principal Research Specialist at the Getty Research Institute, where she oversees the GRI's Digital Art History department. Pugh is active as a specialist in digital art history and an architectural historian. Her expertise within digital art history centers on emerging art and architectural history practices and in particular those related to imaging technologies (e.g., 3-D scanning, computer vision). Her publications include the 2014 book *Architecture, Politics, and Identity in Divided Berlin*, essays for journals including photographies and *The Art Bulletin*, as well as contributions to the 2023 edition of *Debates in the Digital Humanities* and a forthcoming book on Ed Ruscha's "*Streets of Los Angeles*" archive. Her work in architecture and digital art history has been supported by the Centre for Architecture Theory Criticism History at the University of Queensland and the Humboldt University in Berlin where she served as the 2022–23 Rudolf Arnheim Visiting Professor.

4:45 p.m. — Closing Remarks
Venue: TMU School of Image Arts, 122 Bond St. (IMA-307)