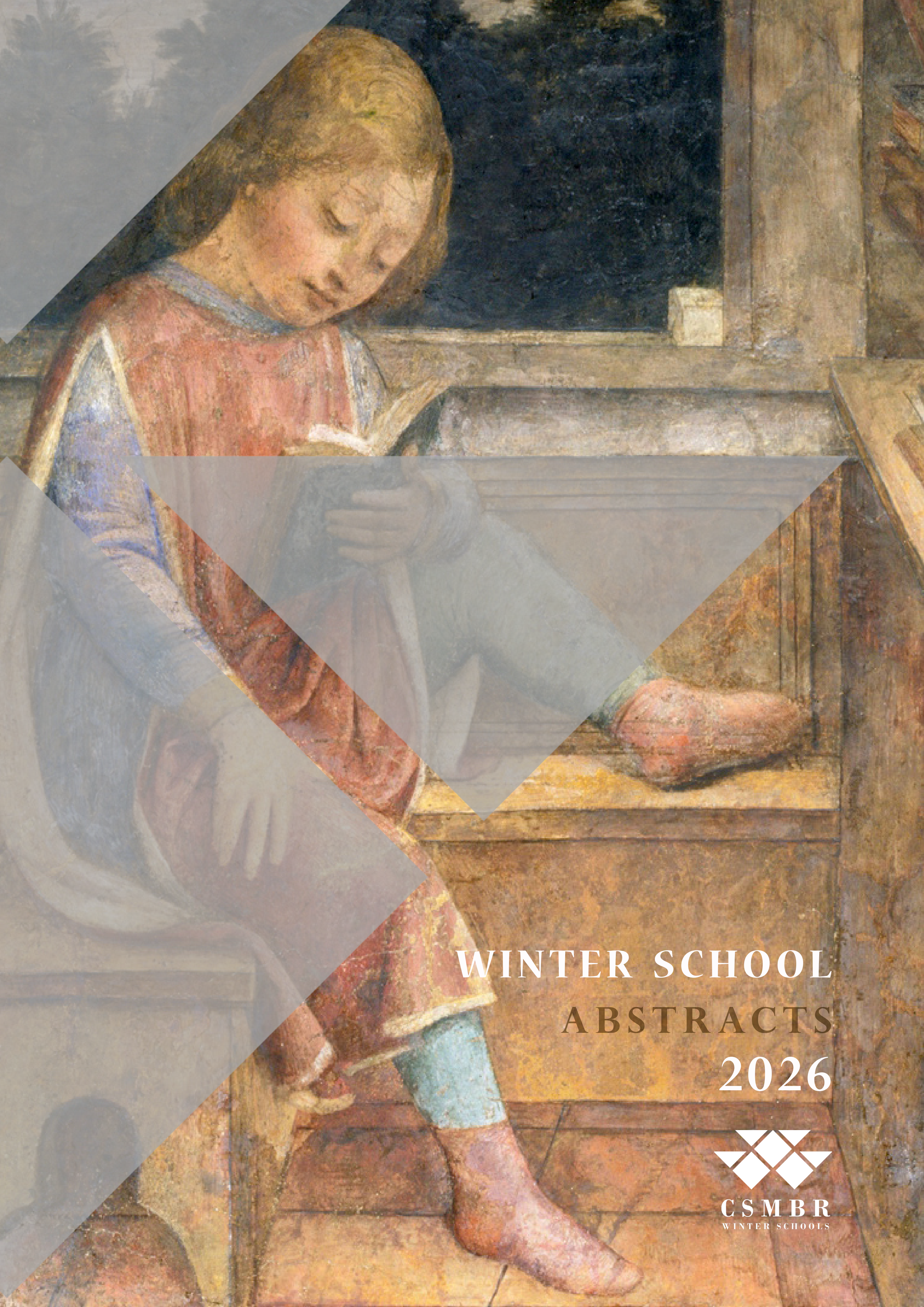

WINTER SCHOOL ABSTRACTS 2026

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Lectures' Abstracts

Alessio Basti

Beyond Human Creativity: A Hybrid Model for Human-GenAI Interaction

Generative AI (GenAI) has emerged as a groundbreaking tool that enables innovative ways to generate, recombine, and reimagine knowledge, offering vast potential for those developing projects or implementing ideas in novel ways. Despite its potential, research on GenAI's impact on creativity remains in its early stages. In this talk, I will delve into this topic by exploring the synergy between human creativity and GenAI, presenting a model for a hybrid creative process that enhances the collaborative potential of human-GenAI interaction. Leveraging insights from machine learning, I will demonstrate how a process of simulated entity elicitation can unlock new dimensions of creative engagement. This model not only offers practical tools for scholars, students, and researchers, but also provides fresh perspectives on the evolving nature of creativity, and on the cognitive and technical skills necessary to thrive in this digitally integrated landscape.

Andreas Lammer & Andreas Schneider

Philology, Philosophy, and Python. The Digital Humanities Between Data and Community

In this talk we present the new ERC project "Avicenna Live: The Immediate Context of Avicenna's Intellectual Formation" (ALIVE3) and its digital outputs. The project investigates previously unexplored sources from the direct milieu of the eminent Muslim scholar Avicenna (Ibn Sīnā, d. 428/1037). One of its subprojects – ALIVE3 – applies advanced Digital Humanities methods to develop an innovative digital platform for the study of diverse and challenging textual corpora. This collaborative environment enables community-based translation, providing participating translators with access to a variety of digital tools, including a dictionary, annotations, and other resources designed to support and enhance their work. The platform's modular architecture, built with Python and Django, ensures flexibility and scalability, while Docker facilitates efficient deployment and collaboration across different systems. The results of ALIVE3 are intended not only to advance this project, but also to serve as a model for other initiatives seeking to translate and analyse complex textual corpora through community-driven digital scholarship. In this way, ALIVE3 aims to set new standards for the application of the Digital Humanities in the study of Islamic intellectual history and related fields.

Orly Lewis **Developing Interacting Research Outputs in the History of Science (1-2)**

This workshop will explore how to develop interactive digital outputs to present the results of your research: 3D models, digital readers, atlases and other interfaces that present scholarship in layered, navigable formats. Such outputs allow researchers to integrate sources, data, references, analysis, and interpretive decisions within a structured and transparent environment. This approach is especially pertinent to the history of science, where visual and material evidence are integral to argumentation rather than mere illustration.

♦ ♦ ♦ **Digital Research in the Study of Ancient Medicine**

Anatomy stood at the centre of Greco-Roman medicine and natural philosophy. Ancient medical and biological texts preserve detailed accounts of the body's internal structures, grounded in empirical practices such as dissection and vivisection. Yet there was no single, standardized "ancient anatomy". Rather, we encounter multiple anatomies: competing interpretations, shifting terminologies, and divergent mappings of the body across authors and periods. Each thinker divided, named, and conceptualized internal structures differently. These texts attempt to describe a three-dimensional, dynamic reality through linear verbal means. Traditional publication formats such as monographs and articles cannot adequately convey the plurality of anatomical models, their spatial logic, or the conceptual tensions between them. Moreover, the loss of ancient visual aids and the absence of the dissected body as shared reference further complicate interpretation. This talk presents digital research strategies developed to address these challenges. I focus on our Digital Atlas of Greco-Roman Anatomy (now expanding into medieval sources), which integrates interactive 3D models with lexical, conceptual, and historical analysis. These models do not merely illustrate textual conclusions; their construction functions as a method of inquiry. Translating verbal descriptions into spatial, material, and relational form forces explicit decisions about boundaries, location, and connections that texts often leave implicit. The modelling process thus exposes ambiguities, challenges inherited translations, and generates new interpretive questions. In addition, I will briefly introduce our AI deep-research assistant for ancient medical and philosophical texts and a digital portal dedicated to ancient dissection practices. Together, these tools demonstrate how digital environments can serve not only as platforms for dissemination but as analytical laboratories for the study of ancient medicine.

Francesca Marchetti

Digital Collections Behind the Scenes: Digitisation Workflows and the Functionalities of Digital Asset Management Systems

Since the emergence of open-access repositories of digitised manuscripts and early printed books (one of the earliest examples, Gallica, made its appearance in 1997) access to digital surrogates has profoundly reshaped research in the Humanities, enabling scholars to access, analyse, and compare a vast range of sources with unprecedented ease. But how are these digital repositories created, and how can we make full use of the tools they provide? Through a few case studies, this presentation offers an overview of the principal challenges and defining features of digitisation projects involving cultural heritage materials. It considers the role of international imaging standards (FADGI and Metamorfoze) and outlines the main stages of a standard digitisation workflow, with particular emphasis on imaging methodologies, including image formats, resolution, post-processing, and colour calibration. The session also examines the architecture and functionalities of Digital Asset Management Systems (DAMs) and discusses the complexities of producing robust and meaningful metadata. Finally, it explores how integrated tools—such as transcription utilities and IIIF viewers—can enhance research practices and improve the usability of digital collections.

♦ ♦ ♦

Case study: Byzantine Orthopaedical Illustrations and their *Nachleben* in the 16th Century: Designing a Digital Humanities Project using Deep Learning based Computer Vision Methods for Image Classification.

Around 1534, Cardinal Niccolò Ridolfi sponsored the edition of two orthopaedic and surgical manuscripts based on Byzantine sources that preserved illustrated medical texts from Hippocrates to Paulus of Egina. The project was led by the Florentine physician Guido Guidi, who translated the texts and studied the images with the help of fellow doctors and artists. In 1542, shortly before the publication of Vesalius's Fabrica, Guidi presented Francis I of France with two manuscripts (Greek and Latin versions of the Byzantine surgical collection) elegantly illustrated by Francesco Salviati. Two years later, he published his translations with commentary in Paris as Chirurgia e graeco in latinum conversa (1544), illustrated with engravings derived from Salviati's drawings. The same Byzantine manuscripts Guidi used were sent to Venice in 1539 with other volumes from Ridolfi's Greek Library for planned printed editions, and remained in the Veneto at least until 1542-43. The striking illustrations prepared by Giovanni Bernardo Feliciano for the 1550 Giunta edition of Galen's surgical works, though influenced by Guidi, also draw clearly on the Byzantine models, underscoring the powerful influence of ancient surgical imagery on sixteenth-century scholarship. These orthopaedical illustration had a long-lasting impact and were copied, reinterpreted and reprinted by other authors well into the 18th century, leading to a corpus of illustrations amounting to many hundreds of pictures. In this presentation, I would like to explore the steps for designing a research project based on Computer Vision to classify and analyse this remarkable set of illustrations.

Francesca Randone **Coding Basics**

The Python Basics sessions introduce Python as a programming language and present its core syntax, including variables, fundamental data types such as strings, numbers, lists, and dictionaries, and control flow structures such as conditional statements and loops. The second session consists of guided exercises designed to reinforce these concepts through direct application.

♦ ♦ ♦ **Functions and Modules**

The session on Functions and Modules presents the definition and use of functions together with the importation of modules, including examples drawn from libraries used later in the course. This is followed by practical exercises intended to consolidate understanding. The session on Working with Files and Data explains procedures for opening and extracting information from files, with particular attention to plain text (.txt) and tabular (.csv) formats, illustrated through practical examples.

♦ ♦ ♦ **Data Analysis**

The Introduction to Pandas sessions present the Pandas library as a primary tool for handling structured data. The first introduces core operations such as data selection, the group by method, and the apply method using real datasets. The second develops more advanced uses, including basic data visualisation, time series handling, and statistical computations.

Viktorya Vasilyan **Gamification: Aims and Applications**

Gamification, understood as the application of game-based techniques to educational contexts, offers a powerful means of engaging learners and encouraging active participation. It can strengthen motivation and performance across formal and informal environments while making complex content more accessible to diverse audiences. Within an interactive atlas, approaches such as narrative-driven storytelling and gamified virtual tours have particular potential, since they foster a deeper connection between users and historical material. Gamification also contributes to well-being in educational and professional settings by reinforcing motivation, interaction, and a sense of belonging, factors that are increasingly relevant in digitally mediated environments. These features support inclusive participation, enabling individuals with disabilities to engage more fully. Effective implementation requires the integration of subject knowledge, pedagogy, and technological proficiency in line with TPACK principles. Although educational games have been widely studied, many existing examples remain limited in scope or platform flexibility, indicating significant room for development. A co-creative design process is therefore essential. By involving end users and stakeholders from the outset through methods such as consultation, ideation workshops, and rapid prototyping, it becomes possible to align mechanics with user motivations and learning goals. While final outputs depend on collaborative refinement, several directions are especially promising:

- Quizzes and challenges that encourage exploration and unlock rewards at points of interest within the atlas.
- Narrative-driven scenarios with branching choices developed in collaboration with subject experts.
- Gamified virtual tours in which users follow clues, complete tasks, and assemble virtual artefact collections.

Together, these approaches position gamification as a flexible framework for creating an interactive atlas that is engaging, accessible, and memorable for audiences ranging from students to cultural visitors.

♦ ♦ ♦ 3D Modelling in Conservation Heritage: The Case of Armenian Monuments

Since the 1960s, the academic study of cultural policy has become central to evaluating national development perspectives, particularly in European contexts. Research in this field generally addresses three domains: the historical evolution of cultural policy, its concepts and strategic models, and the methodological relationship between policy and its scholarly analysis. Within these frameworks, cultural heritage, especially the modernization of archaeological heritage, has emerged as a key area of inquiry. This report argues that the modernization of cultural heritage is an ongoing and irreversible process and examines current cultural policy paradigms in Armenian sociocultural institutions while proposing approaches that align heritage practices with contemporary expectations. The study also presents a digital heritage initiative that documents one hundred archaeological sites across Armenia through high-resolution imagery, drone footage, and 3D orthophotography, made accessible through a comprehensive online platform (http://ama100.am/en). The project links major archaeological monuments with the country's developing tourism sector, presenting historically accurate descriptions, aerial videos, animations, and cartographic data. A virtual reality component allows users to experience sites from multiple perspectives, thereby expanding educational, scholarly, and public engagement. The resulting database functions as a multilingual resource designed for research, teaching, and cultural dissemination. It supports the creation of educational materials, promotional media, and tourism platforms while encouraging collaboration among institutions and stakeholders. Completed in February 2023, the initiative has produced a substantial digital archive of Armenian heritage sites, including detailed visual documentation of structures ranging from fortifications to temples. By integrating scientific documentation with accessible presentation, the project demonstrates how digital infrastructure can enhance heritage visibility, stimulate cultural tourism, and support new forms of academic and public collaboration.

Speakers' Biographical Outlines

Alessio Basti is a computational neuroscientist and applied mathematician specialising in statistical analysis of multivariate time series, neuroimaging connectivity, and mathematical modelling. He earned a PhD in Neuroscience and Imaging from the University "G. d'Annunzio" Chieti-Pescara in 2019, receiving the Doctor Europaeus distinction, and previously completed an MSc in Applied Mathematics with highest honours at Sapienza University of Rome. He has held research and postdoctoral posts in applied physics and neuroscience and collaborates with the MAMBO Lab, contributing to computational methods for brain imaging. His work integrates linear algebra, Fourier analysis, estimation theory, and stochastic processes, with applications ranging from neural oscillation coupling to genetic data analysis. Basti has received awards including a national first prize for best PhD thesis in biomedical research and top ranking in Italian national STEM teaching competitions. He has taught mathematical physics and advanced neuroimaging methods and participates in international projects such as the ERC Synergy project "Connecting to the Networks of the Human Brain.".

Andreas Lammer is Professor of Arabic Studies with a focus on the History of Knowledge at Ruhr University Bochum and Director of the Avicenna Study Center. Trained in philosophy and German studies at Würzburg and King's College London, he completed a doctorate in philosophy and Arabic studies at LMU Munich after teaching and research posts in Würzburg, Cologne, and Jena. He was Junior Professor at Trier University (2018) and Associate Professor of History of Philosophy at Radboud University (2022–2024) before his current appointment in 2025. His research examines Avicenna's philosophy, the transmission of Greek science into the Islamicate world, and the influence of Arabic scholarship on European intellectual history. He authored The Elements of Avicenna's Physics: Greek Sources and Arabic Innovations (2018) and produced a German translation of al-Ghazālī's Incoherence of the Philosophers (2024). Since 2024 he has led the ERC Starting Grant project "Avicenna Live: The Immediate Context of Avicenna's Intellectual Formation.".

Orly Lewis (PhD 2014, Humboldt, Berlin) is an Associate Professor at the Department of Classics at the Hebrew University of Jerusalem. She is PI of ATLOMY, an ERC-funded research on the history of anatomy involving a unique interdisciplinary team, and co-PI of the MSCA Doctoral Network, MECANO. She has published widely on Greco-Roman medicine and the history of scientific method, with a focus on anatomy, physiology, and diagnostics. Her book on the anatomy and physiology of the vascular system and early diagnostic ideas (Brill, 2017) won the Young Historian Prize of the International Academy for the History of Science. In her research she applies an interdisciplinary method for studying ancient medicine, combining philology with visual arts, experimental re-enactments, AI and software development.

Francesca Marchetti is Digitisation Manager at the Library of SOAS University of London, working on digital cultural heritage and manuscript-based scholarship. Her research centres on Byzantine and medieval scientific and medical imagery, especially illustrated manuscripts, botanical and anatomical iconography, and the transmission of scientific texts between Byzantium, the Islamic world, and Renaissance Europe. She works on topics including Byzantine book illustration, manuscript studies, history of science, and philology, with particular attention to the visual transmission of technical knowledge. Her publications analyse subjects such as the diffusion of illustrated medical manuscripts in late Byzantine Constantinople and their reception in sixteenth-century Italy, as well as the transmission of Dioscoridean imagery and surgical illustration traditions. She has authored papers, catalogue entries, reviews, and conference presentations on Byzantine manuscripts, medical illustration, and the circulation of scientific imagery across cultural boundaries.

Francesca Randone is a post-doctoral researcher in theoretical computer science at the TrustCPS group of TU Wien, specialising in probabilistic programming, program synthesis, and automatic differentiation. She earned her PhD in Computer Science and Systems Engineering from the IMT School for Advanced Studies Lucca in 2024 with a dissertation on efficient analysis of transparent generative models. She previously completed an MSc in Mathematics at the University of Trieste and a BSc in Mathematics at the University of Catania, both with highest honours, and held a visiting PhD position at RWTH Aachen's Software Modeling and Verification Group. Her research integrates formal methods, stochastic systems, and machine learning, with publications in leading venues such as Proceedings of the ACM on Programming Languages. In 2024 she was awarded the Best PhD Thesis in Theoretical Computer Science from the Italian Chapter of the European Association for Theoretical Computer Science.

Andreas Schneider is Coordinator for AI Strategy and Application in Teaching and Research at the Business School of Pforzheim University, a post he has held since October 2025. He oversees the strategic integration of artificial intelligence across teaching and research, advising faculty on the design and implementation of AI initiatives and promoting innovative academic uses of these technologies. He previously served as Research Associate in Digital Business Management, contributing to programme development and management for the BSc and MSc degrees in that field. His teaching covers core and advanced areas of computer science and information systems, including Java programming, algorithms and data structures, software engineering, and agile project management, delivered across multiple undergraduate and postgraduate programmes. In addition, he is an associate researcher in Andreas Lammer's ERC-funded project "Avicenna Live: The Immediate Context of Avicenna's Intellectual Formation," contributing to its research activities.

Viktorya Vasilyan is a senior researcher and achaeologist at the Institute of Archaeology and Ethnography at the National Academy of Sciences of Armenia. She earned her PhD in 2018, focusing on Women's Iconography during the Ancient and Classical Periods in the Armenian Highlands. Vasilyan's career since 2012 includes roles at Yerevan State University, the American University of Armenia, and the Traditional Medicine University of Armenia. She currently manages the "100 Archaeological Monuments of Armenia" project (https://ama100.am/en) and serves as the Goodwill Ambassador for Peace, Human Rights, and Humanity under the IHRO-Republic of Armenia. Additionally, Vasilyan leads the Scientific Organizational Department at the Institute and teaches at the American University of Armenia.

CENTRE FOR THE STUDY OF
MEDICINE AND THE BODY
IN THE RENAISSANCE

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