

Computer Vision and Image Analysis of Art II

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Editors

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Introduction

The technical conference *Computer Vision and Image Analysis of Art II* was part of the IS&T/SPIE Electronic Imaging symposium, held in San Francisco, California, 25–26 January 2011. This was the third IS&T/SPIE conference in this interdisciplinary field. The growing number of research collaborations and the breadth of topics—from capture, image processing and archiving to computer vision analysis, computer graphics simulations and scholarly interpretation—shows the field is providing value to the broader community of art scholars and museum professionals. Papers included in this volume demonstrate how reading of artifacts can be enhanced, and new data discovered, through application of imaging techniques; the recovery of handwritten text from the diaries and papers of the 19th-century explorer, David Livingstone, being an excellent example. Even when the results are less spectacular, or ambiguous, the value of such applications lies in how the new tools lead to an enhanced understanding of the material, both physical and intellectual, under investigation.

The keynote address, delivered by Ron Spronk, Professor of Art History at Queen's University, Canada, centered on the challenges in technical examination, restoration and re-interpretation of the *Ghent Altarpiece* by the Van Eyck brothers, one of the defining works of early Renaissance art of northern Europe. He described the painstaking multi-year restoration effort, and the role of high-resolution multi-spectral imaging in documenting the effort and the work. Computer processing and enhancement of such images will be a tool for conservators, curators and art historians. In perhaps excessively general terms the use of pattern recognition, so fundamental to much image analysis, offers new ways of looking at not just single works but entire groups of works of art and to find new patterns within them.

If computer science is to continue to support art analysis, we must ensure that the insights gained benefit both disciplines. This can only happen if and when research questions are formulated through dialogue and collaboration. The lively discussion at the conference concerning the seemingly realistic space depicted in the Van Eycks' masterpiece *Portrait of Giovanni (?) Arnolfini and his wife*—seen by the scientists in physical and geometrical terms, and by the art historians in metaphysical, illusionistic terms—may serve as an illustration of common misunderstandings. While confirming that each discipline has its own discrete research methods and established conventions of intellectual inquiry, this example also shows that the challenge of successful interdisciplinary research lies in the readiness to step outside the inherited modes of operation and the comfort of one's own mind set. We need to learn the terms of the other discipline and embrace its 'language' and world views.

The authors are grateful for the opportunity to present their research and have their papers published. We editors hope these proceedings will stimulate discussion and new collaborations between scholars in computer science and the arts. We would like to thank all the contributors, reviewers, attendees, and the staff of IS&T/SPIE for making the conference a success. It has been particularly satisfying to have the participation of leading experts in the field alongside young researchers presenting their first conference paper or poster ever. We hope they all have found the conference a stimulating experience and were able to establish new contacts. We are especially glad that IS&T/SPIE recognizes the value of the interdisciplinary research that appears in this volume, and supports next year's conference.

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