



Computational Aesthetics

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Computational aesthetics bridges the analytic and synthetic and integrates aspects of computer science, philosophy, psychology, and the fine, applied and performing arts and seeks to facilitate both the analysis and the augmentation of creative behavior. It investigates the creation of tools that can enhance the expressive power of the fine and applied arts and furthers our understanding of aesthetic evaluation, perception, and meaning.

A series of conferences dedicated to exploring research aspects of this young field have met in Girona, Spain (2005), Dachstuhl, Germany (2006), and Banff, Canada (2007). For this issue, we selected five of the papers presented in Banff that echo aspects of computer graphics that we hope will be of interest to *IEEE CG&A* readers. Since the conference, the authors have improved their articles, enhancing them with new research results.

In "Informational Aesthetics Measures," the authors examine metrics for the aesthetics of an image and propose additional metrics. From there, we move to something more tangible for scientists. In "Non-dissipative Marbling," the authors present a new algorithm for creating aesthetic marble textures. In the third article, "Viewpoint-Based Ambient Occlusion," the authors introduce a new technique based on information-theoretic concepts at a fraction of the cost of indirect global illumination algorithms. In the next article, "Automatic Mood-Transferring

between Color Images," the authors have tackled two problems: the challenge of choosing an appropriate reference image and the effectiveness of a color transfer. Finally, in "Measuring Stipple Aesthetics in Hand-Drawn and Computer-Generated Images," the authors examine the idea that computer-produced drawings that appear hand-drawn are still easily distinguishable as computer-generated and, when analyzed on a statistical basis, vary considerably.

We hope this selection of articles will help our readers to better understand what aesthetics is and what computer technology is currently capable of delivering and to appreciate what's involved in the creative process. ■■



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Call for Papers

IEEE Computer Graphics and Applications magazine invites original articles on the theory and practice of computer graphics. Topics for suitable articles might range from specific algorithms to full system implementations in areas such as modeling, rendering, animation, information and scientific visualization, HCI/user interfaces, novel applications, hardware architectures, haptics, and visual and augmented reality systems. We also seek tutorials and survey articles.

Articles should be up to 10 magazine pages in length with no more than 10 figures or images, where a page is approximately 800 words and a quarter page image counts as 200 words. Please limit the number of references to the 12 most relevant. Also consider providing background materials in sidebars for nonexpert readers.

Submit your paper using our online manuscript submission service at <http://cs-ieee.manuscriptcentral.com/>.

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Please include a title, abstract, and the lead author's contact information.

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