

## **Abstract for Art, Science and Visual Studies / AHA 27th AAH Annual Conference, 2001**

Visualizing Innovation: Contemporary cross-currents in art, science, and visual studies

Recent cultural analyses of art have made great inroads in describing how each age finds its own techniques, sources of inspiration, and modes of presentation. This paper applies this approach to our own age, exploring how contemporary scientific technologies reveal how a brain creates art. Particular attention will be given to: (1) how imaging technologies that penetrate through opaque surfaces expand artistic, viewer, and biological frames of reference, (2) how this ability to gaze at more than the surface has fostered neurophysiology, perceptual studies, and the study of art practices, and (3) how contemporary art practices help to integrate new scientific findings with hands-on experiments and consequently to re-visit historical ideas about vision, optics, and perception. The work of several artists will be considered, including Humphrey Ocean, David Hockney, James Turrell, and Margaret Dolinsky. Overall the paper will demonstrate that learning, like innovation, combines diverse frames of reference. As a result, information and forms that were not concretely represented in previous epochs enter cultural discourse.

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### **Art, Science and Visual Studies Session**

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Recent developments in the neurophysiology of sensation and perception, partly by virtue of their striking imagery, have helped humanities scholars to stress the bodily basis of cultural processes, of the exchange of signs and symbols. This research has tended to point out the functional inter-

relationship of the senses, but still the traditional Aristotelian distinction into five, with an implicit moral hierarchy helping to distinguish humans from the beasts, remains commonplace. Equally, researchers in digital - or dematerialized - communication have turned to the body to develop analogues of neural structures and processes that may improve the performance of their machines. Utilizing some of the multi-disciplinary resources in Oxford, this session will take stock of such methodological cross-currents. It will examine research into vision as practised by art historians and artists on the one hand, and scientists and engineers on the other, asking what they can learn from each other.

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