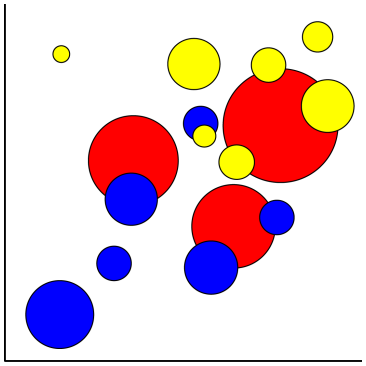
Journal of Vision Special Issue



Vision and Information Visualization

As data continue to drive decision-making, communication, and discovery, information visualizations that enable people to make sense of these data are becoming ubiquitous. When done well, visualizations leverage visual intelligence, enabling the viewer to use vision to think. To understand how to create effective visualizations, researchers have built an empirical framework for evaluating techniques and design guidelines. Much of this work has been inspired by findings in vision science, which provides a basic understanding of how we perceive and interpret visualizations, as well as a set of experimental techniques that help evaluate effectiveness. But just as importantly, both the successes and unsolved problems of visualization also provide a new source of basic research questions for vision scientists. Visualizations require a viewer to find data of interest (visual search), estimate data means or variance (ensemble coding), understand trends (pattern vision), and compare data values or patterns (visual memory & comparison); data must be displayed clearly (crowding, salience, discriminability), understandably (semantics), and in a pleasing way (aesthetics). Such issues connect with broad areas across vision, including color, shape, size, depth, and motion perception.

This special issue seeks to illustrate how interdisciplinary work between vision science and visualization can simultaneously improve techniques in visualization while also advancing our basic understanding of human vision.

Feature Editors:

Steven L. Franconeri	Northwestern University
Ronald A. Rensink	University of British Columbia
Ruth Rosenholtz	Massachussets Institute of Technology
Karen B. Schloss	University of Wisconsin–Madison
Danielle A. Szafir	University of Colorado Boulder

Submissions accepted through December 31, 2020. Accepted papers will be published as ready in the current monthly issue as well as presented together as a special issue on the JOV website.

Journal of Vision is an online, open access, peer-reviewed scientific journal devoted to all aspects of visual function in humans and other organisms. The journal is published exclusively in digital form: full-text articles may be accessed for free via the internet. The journal encourages the effective use of color, multimedia, hyperlinks, program code, and other digital enhancements. Journal of Vision is published by the Association for Research in Vision and Ophthalmology (ARVO). To submit a paper to this special issue please follow the Instructions for Authors at http://journalofvision.org/. All papers will be subject to peer review.