
Editorial

Molecular Biology of the Cell was founded by the American Society for Cell Biology to enhance scientific communication among cell biologists. Initially, this meant providing a forum in which research results could be published in standard forms—i.e., text, figures, and tables—with rigorous, fair, and helpful reviews by authentic peers. We hoped to serve all cell biologist authors, especially those whose papers were too interdisciplinary, too unorthodox, or insufficiently trendy for existing journals.

There remains a vital segment of the cell biology community whose work still cannot effectively be communicated, even in *MBC*. Cell biologists began long ago to use video microscopy and three-dimensional imaging in their research. Data of this kind can only be summarized in print, not really appreciated or reviewed. What began as a trickle of such data now threatens to be a flood; yet for even the most important results, all that most of us have ever seen are sets of stills or collapsed flat representations. Another type of data poorly served at present is large data sets such as those produced by microarray hybridization experiments, crystallographic coordinates, scanning mutagenesis, and genetic linkage (especially in humans). Original videos, three-dimensional images, and large data sets commonly are available only privately from the authors or, in favorable cases, from online databases.

MBC Online (<http://www.molbiolcell.org>) has made it possible to serve authors whose primary data can be appreciated only on video, in three-dimensional images, or by accessing very large tables or figures. In this issue of *MBC*, we introduce our ability to display videos and three-dimensional images. For the first time, not only can readers see the summary figure in the printed journal, but by clicking on that same image online, they can see a QuickTime movie that presents the original video or, by using movement, represents an image in three dimensions. In all cases the material seen by the reader will have been reviewed. We will consider the new data forms as part of the publication, and not “supplementary”; accordingly, we will work with HighWire Press (*MBC*’s electronic publisher) to archive *MBC* so that the complex data remain included just as if they were conventional figures and tables.

Our newly recruited, enthusiastic, and admirably effective video editors, Jennifer Lippincott-Schwartz and W. James Nelson, have begun to assemble “video essays.” These short papers present existing video and three-dimensional images, some of them extremely important to the current state of knowledge of cell biology. Despite their importance, these videos and images have been seen by only a small fraction of the cell biologists who know the accepted conclusions based on them. We present them not only to demonstrate the capacity of this medium to illustrate effectively a scientific story, but also in the expectation that scientists (and their students) everywhere can begin to see what these data really look like. We are fortunate indeed to be able to present such classic (not to mention visually impressive) material as Shinya Inoue’s essay detailing microtubule dynamics and Mark Terasaki’s images of echinoderm fertilization. Also in this issue, we feature our first full-length article (Cali *et al.*, pages 1873–1889) that includes videos allowing readers to examine the three-dimensional distribution of actin in yeast pseudohyphae.

MBC will continue to feature both video essays and full-length papers containing QuickTime videos or three-dimensional images in each of its upcoming issues, and we encourage authors to submit papers that use these programs to *MBC* for consideration. All videos will be reviewed as rigorously as the papers, to ensure that they meet the same high standards for publication.

MBC is also ready to accept articles that contain large data sets, such as the tabular material underlying gene expression microarray data. We encourage authors to submit not only graphical representations of these data sets but also the data sets themselves, which can then be used by colleagues to appreciate fully and then to build on the work being presented.

In all cases, it is *MBC*’s goal to make articles published maximally useful to both authors and readers. By presenting fully reviewed video images and complex data, we hope to set the standard for the future, when such data will become the rule rather than the exception.

David Botstein
Editor-in-Chief
