

Fifty years of cell biology

Ira Mellman

Editor-in-Chief, The Journal of Cell Biology

With the publication of this issue we celebrate 50 years of astonishing and enlightening cell biology in the pages of this journal. In January 1955 the Journal first appeared as the *Journal of Biophysical and Biochemical Cytology*; in 1962 the name changed to the *Journal of Cell Biology*, catalyzing the development of cell biology as a discipline, a function the *JCB* serves to this day.

The *JCB* began thanks to the efforts of Keith Porter and George Palade, two of our field's most important founders (Porter and Bennett, 1981). From its beginnings, it has relied on devoted service by members of the scientific community, who have given their all as its editors, contributors, reviewers, and readers. For 50 years, they have sent their best work to the Journal, and donated untold hours to make the *JCB* a true journal of record for the cell biology community, and a chronicle of a path forward in a scientific discipline. Amongst these individuals we must single out the late Norton (Bernie) Gilula, who served as the first Editor-in-Chief from 1983–1999. The process that Bernie nurtured, however, has truly been and remains a group effort—an undertaking that both builds and is sustained by the community of cell biologists. As a result, the work published in these pages has formed the very definition of cell biology.

From 1955 to the present, the *JCB* has reported an extraordinary string of discoveries from all of the great names in

cell biology, both before and after their names became household words. We will be presenting a chronicle of many of these classic papers in a new "From the Archive" series, which begins in this issue. As can be seen in the series, the early days were marked by identification of cellular structures—ribosomes, synaptic vesicles, lysosomes, microtubules, and intermediate filaments. These were followed by systematic demonstrations of what these structures actually did, and determination of the molecular mechanisms underlying their functions. The *JCB* has hosted the publication of an extraordinary series of revelations including, amongst others: the identification of satellite cells as early stem cells; establishment of 3T3 and other reliable cell lines; the definition of cellular junctions; the discovery of tubulin; the illumination of the secretory pathway; tracing the various routes of the endocytic pathway; the understanding of ciliary sliding mechanisms; the expansion of actin to nonmuscle roles; both the original proposal and the proof of the signal sequence hypothesis; the discovery of cadherins and cloning of connexins, occludin, and claudins; the first mention of the raft hypothesis; the discovery of passenger proteins; polewards flux in the spindle—the list is almost endless.

In 1956, Keith Porter reflected on the relatively recent advent of electron microscopy in the biological sciences with the following words (Satir, 1977): "For those of us who are fortunate to be



part of this new development, these are days of great interest and opportunity." Surely, this is still such a time. The Journal continues to receive and publish wonderful and original science that pushes the boundaries of our understanding, generating new and exciting new directions. The papers that appear in the *JCB* have extraordinary staying power: publications in *JCB* have citation half lives that are far longer than those of most other scientist-run journals, and comparable to those of papers in *Science*, *Nature*, and *Cell*.

We look forward to the next 50 years of exciting discoveries.

Porter, K.R., and H.S. Bennett. 1981. *J. Cell Biol.* 91:IX–XI.

Satir, P. 1997. Keith Roberts Porter: 1912–1997. *J. Cell Biol.* 138:223–224.