

WormBook: WormBiology for the 21st Century

In this issue of *GENETICS*, the Genetics Society of America launches WormBook, a collection of reviews encompassing the breadth and depth of *Caenorhabditis elegans* research. We invite novice and established *C. elegans* researchers, and the many scientists working on other organisms, related topics, or orthologous genes, to learn in these pages about the insights that have come from work on *C. elegans* since the publication of Sydney Brenner's foundational article in *GENETICS* (Brenner 1974).

WormBook in *GENETICS* is really the fourth incarnation of a community project that began with the publication of a Cold Spring Harbor monograph, "The Nematode *Caenorhabditis elegans*," in 1988—a still useful volume that contains 12 chapters plus appendices with much basic information about the worm, as well as Sydney Brenner's proposal to the Medical Research Council describing his rationale and vision for the worm, and showing that we are all still standing on his shoulders. The second Cold Spring Harbor monograph, "*C. elegans* II," published in 1996, grew to contain 30 chapters plus appendices. It also contains a preface in which Brenner remarked not only on the breadth of the biology encompassed in those pages but also on "the wonderful feature that I experienced first and which everyone has experienced since: that with a few toothpicks, some Petri dishes, and a microscope, you can open the door to all of biology." How we worm people feel about our beast and our field cannot be said any better than that!

The third incarnation was the creation of WormBook, a pioneering online compendium "created in response to the need to develop a publishing model that could keep pace with a rapidly growing knowledge base and provide a central repository for methods and protocols" (Girard *et al.* 2006). Chapters of WormBook were published beginning in 2005 in conjunction with WormBase, which began as a pioneering effort to expand the database of the genome-sequencing project database into a web-based one-stop shop for information about *C. elegans*, and is now thriving not only as the central

repository for research data on all aspects of the biology, genetics, and genomics of *C. elegans*, but also for other nematode species (Howe *et al.* 2015). The publication of over 150 chapters in WormBook has furthered the WormBase mission to make information about the worm accessible and available to the community.

This fourth incarnation, launched here as WormBook in *GENETICS*, is more than just "*WormBook II.*" It is an opportunity to respond to the ever-increasing pace and complexity of *C. elegans* research by treating information and discoveries in a more synthetic and interdisciplinary way. Thus, WormBook in *GENETICS* will have a different section organization to encourage bigger themes, and many chapters are being conceived with the express purpose of bringing together subtopics that can be tied together by common mechanisms or overarching questions or lessons. Indeed, in many cases it has been difficult to decide in what section a chapter belongs, so we anticipate cross-listing some chapters so that readers can find all relevant chapters while browsing a section.

WormBook in *GENETICS* will publish review articles spanning the range of *C. elegans* biology over the course of about 4 years. These articles will be accessible in the journal via a WormBook collection on the *GENETICS* homepage. As with past incarnations of this project, WormBook chapters in *GENETICS* will not necessarily supplant existing ones, and thus the two entities will be linked via their homepages. We launch WormBook with a new chapter, "CRISPR-based Methods for *C. elegans* Genome Engineering," and links to a primer and several Perspectives articles that have appeared in *GENETICS*.

We gratefully acknowledge the important contributions of Martin Chalfie, the founding editor-in-chief of WormBook, and Paul Sternberg, the publisher of chapters hosted via WormBase; the advisory board and section editors who have helped conceive and execute WormBook in *GENETICS*; and our many colleagues in the field who are contributing as authors and reviewers. Together, we will all ensure that this project represents and serves the needs of our community.

Iva Greenwald, WormBook Editor-in-Chief

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