YeastBook: An Encyclopedia of the Reference Eukaryotic Cell

IN this issue of GENETICS, the Genetics Society of America launches **YeastBook**, a comprehensive compendium of reviews that presents the current state of knowledge of the molecular biology, cellular biology, and genetics of the yeast *Saccharomyces cerevisiae*.

Yeasts have long been recognized as key model organisms: “the yeasts, on account of the facility with which they allow themselves to be cultivated in artificial media, and by the relatively large size of their cells, are especially favorable objects for experimentation. . . . They have contributed appreciably to the progress of general physiology and biology.”¹ The author of that statement could not have imagined when he wrote it in 1920 how prescient it was! Today, the position of *S. cerevisiae* as the reference eukaryotic cell is undisputed. When investigators identify a gene in any organism, they first look in the *Saccharomyces* Genome Database for a homolog. Because of decades of work on *S. cerevisiae* by a large research community with access to a prodigious experimental toolbox, finding a homolog (which happens more than half the time) brings not only a wealth of information that provides much insight into the gene’s function, but also a robust experimental platform for further investigations that promise new insights. And those insights are likely to inform the gene’s purpose in all eukaryotes because of the remarkable evolutionary conservation of form and function of the components of a cell.

But the amount of information about *S. cerevisiae* can be overwhelming to those less familiar with the organism, and even to yeast researchers. Genome-wide analyses often take investigators into areas of yeast biology unfamiliar to them. If biologists are to continue to reap the benefits of our deep and broad knowledge of the yeast cell, that information must be organized, distilled, and delivered in an accessible way. That is what **YeastBook** will do.

YeastBook continues on from the still much-used monograph series *The Molecular Biology of the Yeast Saccharomyces*, commonly referred to as “the Yeast Books,” published by

Cold Spring Harbor Laboratory Press. Their two-volume first edition, published in the early 1980s, just after we gained the ability to engineer the yeast genome, heralded a rapidly growing field of research with great promise. That promise was quickly fulfilled, and a second, three-volume edition was needed only 10 years later. The last of those volumes appeared just as the DNA sequence of the yeast genome—a resource that propelled the field to an even greater breadth and depth of discovery—was determined. More than 15 years have passed since that signal event; a new edition of the encyclopedia of yeast biology is overdue.

Each month, GENETICS will publish one or two **YeastBook** chapters on various aspects of yeast biology, genetics, and genomics, comprising ~50 chapters in all. These articles will appear as review articles in the journal and will also be compiled on a separate **YeastBook** website. This publishing model takes advantage of the established infrastructure of GENETICS—its professional preparation and presentation of articles; its relationship with HighWire Press; its indexing, search, and navigation functions; and the innovative article features unique to GENETICS, such as direct linking of terms to the model organism databases. Perhaps most important is the solid peer-review and peer-editing practice of GENETICS: all chapters of **YeastBook** will be subject to the same scrutiny and meet the same high standards as any other article published in the journal. And publishing the chapters in the journal will allow for the continual updating that this still-vibrant field will surely continue to demand. GENETICS is a fitting venue for this newest model of a book.

The topics represented in **YeastBook** span the breadth of *Saccharomyces* biology. Experts and innovators in their fields are writing the chapters, which will be edited by a select group of leaders with broad expertise in *Saccharomyces* biology who were recruited by the GENETICS Editorial Board and the Board of Directors of the Genetics Society of America. We thank these Editors (listed below) and the authors for their selfless service to GENETICS, to the GSA, and to science.

We launch **YeastBook** with a Perspectives article and two Review articles. The Perspectives article by David Botstein and Gerry Fink reprises their 1988 paean to this

experimental organism. Botstein and Fink regale readers with how yeast research has exceeded their expectations, and they entice us with its future potential. The Review articles by Steven Hahn and Elton Young and by Aaron Neiman

bring us up to date on two subjects that research on yeast has brightly illuminated. We look forward to being inspired in these pages by what the awesome power of yeast genetics has wrought.

*Alan G. Hinnebusch, **YeastBook** Editor-in-Chief
Mark Johnston, **GENETICS** Editor-in-Chief*

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