

Volume 4 Summer Issue

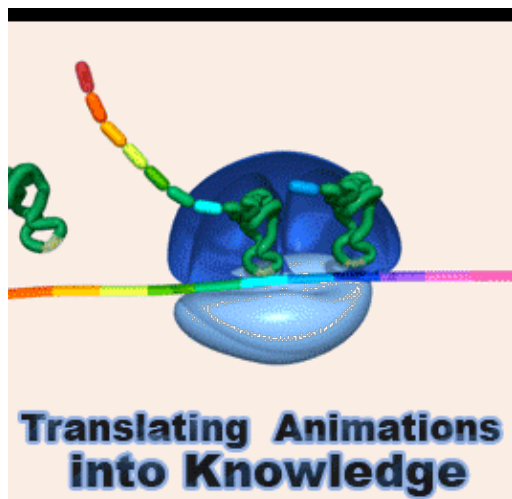


Table of Contents

Use Arrows to Browse
Previous Issues

Contact CBE

8120 Woodmont Avenue Suite
750

Bethesda, Maryland 20814-
2762

Phone: (301) 347-9300

Fax: (301) 347-9350

cbe@ascb.org



FEATURES

- **WWW.Cell Biology Education: Using the World Wide Web To Develop a New Teaching Topic**
by Robert V. Blystone and Barbara MacAlpine
- **Approaches to Biology Teaching and Learning: Understanding the Wrong Answers—Teaching toward Conceptual Change**
by Kimberly Tanner and Deborah Allen
- **From the National Academies: Overview of the National Research Council's Board on Science Education and Personal Reflections as a Science Teacher**
by Carl Wieman
- **Why Intelligent Design Isn't Intelligent Review of: *Unintelligent Design*, by Mark Perakh; 2003; 459 pp.;**
Prometheus Books (New York); ISBN: 1-5910-2084-0
by Mark D. Decker
- **Points of View: A Survey of Survey Courses: Are They Effective?**
by Arri Eisen; Janet M. Batzli; David Becker; Douglas, M. Fambrough, Rebecca Pearlman, Richard Shingles, and Rae Brosnan; and Mary Lee Ledbetter and A. Malcolm Campbell

ESSAY



Supported in part by an Undergraduate Science Education Program grant from the Howard Hughes Medical Institute

- **“Shrink Wrapping” Lectures: Teaching Cell and Molecular Biology within the Context of Human Pathologies**
by William H. Guilford

ARTICLES

- **Introductory Biology Courses: A Framework To Support Active Learning in Large Enrollment Introductory Science Courses**
by Ann C. Smith, Richard Stewart, Patricia Shields, Jennifer Hayes-Klosteridis, Paulette Robinson, and Robert Yuan
- **An Inexpensive Gel Electrophoresis-Based Polymerase Chain Reaction Method for Quantifying mRNA Levels**
by William D. Bradford, Laty Cahoon, Sara R. Freel, Laura L. Mays Hoopes, and Todd T. Eckdahl
- **Molecular and Cellular Biology Animations: Development and Impact on Student Learning**
by Phillip McClean, Christina Johnson, Roxanne Rogers, Lisa Daniels, John Reber, Brian M. Slator, Jeff Terpstra, and Alan White

ANNOUNCEMENTS

September 3–7, 2005, Sydney, Australia
15th International Society of Developmental Biologists Congress

Submit Your Manuscript
Online Manuscript Submission

- **Instructions to Authors**
- **Top Ten Reasons to Publish in CBE**

[pdf]

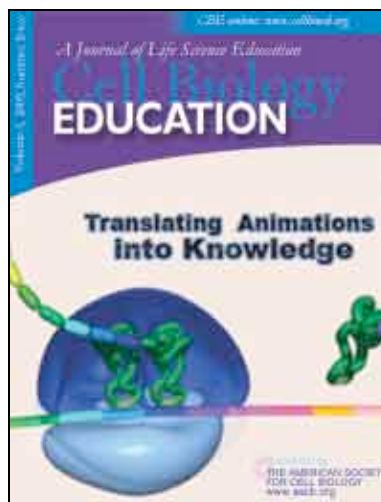
Other Information:

There are **6,450** registered users signed up to receive quarterly notification of new content.

[Become a registered user.](#)

[Order a Free CBE Poster](#)

On the Cover [\[Printable Cover\]](#)



The cover is an animated gif that highlights a few steps of the process of protein translation. The animation is a loop of images that shows three tRNAs bringing their amino acid cargo to the ribosome that synthesizes the growing protein. The article by McClean et al. in this issue of CBE describes the development of a collection of molecular and cellular biology animations and their positive impact on student learning.