

BIOLOGY

Seventh Edition

AP Edition Reviewers

Bonnie Arons-Polan, *Beverly High School, Beverly, MA*
Barbara Beitch, *Hamden Hall Country Day School and Quinnipiac University, Hamden, CT*
Cheryl G. Callahan, *Savannah Country Day School, Savannah, GA*
Mary Colvard, *Science Education Consultant, Deposit, NY*

Sharon Leto, *Middleton Magnet High School, Tampa, FL*
Jerry Murray, *Adams Junior High School, Tampa, FL*
Don Reid, *Cypress High School, Cypress, CA*
Nancy Ridenour, *Ithaca College, Ithaca, NY*
Mark Stefanski, *Marin Academy, San Rafael, CA*

Reviewers of the Seventh Edition

Thomas Adams, *Michigan State University*
Shylaja Akkaraju, *Bronx Community College of CUNY*
Bonnie Amos, *Angelo State University*
Jeff Appling, *Clemson University*
J. David Archibald, *San Diego State University*
David Armstrong, *University of Colorado at Boulder*
Mary Ashley, *University of Illinois at Chicago*
Karl Aufderheide, *Texas A&M University*
Ellen Baker, *Santa Monica College*
Susan Barman, *Michigan State University*
Andrew Barton, *University of Maine, Farmington*
David Bass, *University of Central Oklahoma*
Bonnie Baxter, *Hobart & William Smith*
Tim Beagley, *Salt Lake Community College*
Margaret E. Beard, *College of the Holy Cross*
Chris Beck, *Emory University*
Patricia Bedinger, *Colorado State University*
Tania Beliz, *College of San Mateo*
Robert Blanchard, *University of New Hampshire*
Andrew Blaustein, *Oregon State University*
Allan Bornstein, *Southeast Missouri State University*
Lisa Boucher, *University of Nebraska-Omaha*
Robert Bowker, *Glendale Community College (Arizona)*
Barbara Bowman, *Mills College*
Sunny Boyd, *University of Notre Dame*
Lawrence Brewer, *University of Kentucky*
Paul Broady, *University of Canterbury*
Carole Browne, *Wake Forest University*
David Bruck, *San Jose State University*
Rick Brusca, *Arizona-Sonora Desert Museum*
Howard Buhse, *University of Illinois at Chicago*
Arthur Buikema, *Virginia Tech*
Al Burchsted, *College of Staten Island*
Alison Campbell, *University of Waikato*
Frank Cantelmo, *St John's University*
John Capeheart, *University of Houston-Downtown*
Robert Carroll, *East Carolina University*
David Champlin, *University of Southern Maine*
Giovina Chinchar, *Tougaloo College*
Anne Clark, *Binghamton University*
Greg Clark, *University of Texas, Austin*
Randy Cohen, *California State University, Northridge*
Jim Colbert, *Iowa State University*
Robert Colvin, *Ohio University*
Elizabeth Connor, *University of Massachusetts*
Joanne Conover, *University of Connecticut*
Greg Crowther, *University of Washington*
Karen Curto, *University of Pittsburgh*

Anne Cusic, *University of Alabama at Birmingham*
Larry Davenport, *Samford University*
Teresa DeGolier, *Bethel College*
Roger Del Moral, *University of Washington*
Veronique Delesalle, *Gettysburg College*
Daniel Dervartanian, *University of Georgia*
Jean DeSaix, *University of North Carolina at Chapel Hill*
Biao Ding, *Ohio State University*
Stanley Dodson, *University of Wisconsin-Madison*
Mark Drapeau, *University of California, Irvine*
Gary Dudley, *University of Georgia*
Douglas Eernisse, *California State University, Fullerton*
Brad Elder, *University of Oklahoma*
Norman Ellstrand, *University of California, Riverside*
Dennis Emery, *Iowa State University*
John Endler, *University of California, Santa Barbara*
Gerald Esch, *Wake Forest University*
Frederick B. Essig, *University of South Florida*
Mary Eubanks, *Duke University*
Paul Farnsworth, *University of Texas, at San Antonio*
Kim Finer, *Kent State University*
Frank Fish, *West Chester University*
Steven Fisher, *University of California, Santa Barbara*
Lloyd Fitzpatrick, *University of North Texas*
Bill Fixsen, *Harvard University*
James Franzen, *University of Pittsburgh*
Frank Frisch, *Chapman University*
Bernard Frye, *University of Texas at Arlington*
Chandler Fulton, *Brandeis University*
Michael Gaines, *University of Miami*
J. Whitfield Gibbons, *University of Georgia*
J. Phil Gibson, *Agnes Scott College*
Simon Gilroy, *Pennsylvania State University*
Alan Gishlick, *National Center for Science Education*
John Glendinning, *Barnard College*
Sandra Gollnick, *State University of New York at Buffalo*
Robert Goodman, *University of Wisconsin-Madison*
Phyllis Griffard, *University of Houston-Downtown*
Joel Hage, *Radford University*
Jody Hall, *Brown University*
Douglas Hallett, *Northern Arizona University*
Sam Hammer, *Boston University*
Laszlo Hanzely, *Northern Illinois University*
Jeff Hardin, *University of Wisconsin-Madison*
Carla Hass, *Pennsylvania State University*
Chris Hauffer, *University of Kansas*
Chris Haynes, *Shelton State Community College*
Blair Hedges, *Pennsylvania State*

David Hein, *Tulane University*
 Michelle Henricks, *University of California, Los Angeles*
 John D. Helmann, *Cornell University*
 Scott Herrick, *Missouri Western State College*
 David Hibbett, *Clark University*
 William Hillenius, *College of Charleston*
 Robert Hinrichsen, *Indiana University of Pennsylvania*
 A. Scott Holaday, *Texas Tech University*
 Karl Holte, *Idaho State University*
 Nancy Hopkins, *Tulane University*
 Sandra Horikami, *Daytona Beach Community College*
 Sandra Hsu, *Skyline College*
 Cheryl Ingram-Smith, *Clemson University*
 Stephen Johnson, *William Penn University*
 Walter Judd, *University of Florida*
 Thomas Kane, *University of Cincinnati*
 Tamos Kapros, *University of Missouri*
 Jennifer Katcher, *Pima Community College*
 Norm Kenkel, *University of Manitoba*
 Mark Kirk, *University of Missouri-Columbia*
 Daniel Klionsky, *University of Michigan*
 Ned Knight, *Linfield College*
 David Kohl, *University of California, Santa Barbara*
 David Kurijaka, *Ohio University*
 Elaine La, *Brandeis University*
 William L' Amoreaux, *College of Staten Island*
 Dominic Lannutti, *El Paso Community College*
 John Lepri, *University of North Carolina at Greensboro*
 Donald Levin, *University of Texas, Austin*
 Mike Levine, *University of California, Berkeley*
 Clark Lindgren, *Grinnell College*
 Steven Lynch, *Louisiana State University at Shreveport*
 Philip M. Meneely, *Haverford College*
 Richard Machemer Jr., *St. John Fisher College*
 Elizabeth Machunis-Masuoka, *University of Virginia*
 Linda Maier, *University of Alabama in Huntsville*
 Jose Maldonado, *El Paso Community College*
 Richard Malkin, *University of California, Berkeley*
 William Margolin, *University of Texas Medical School*
 Diane Marshall, *University of New Mexico*
 Linda Martin-Morris, *University of Washington*
 Lee McClenaghan, *San Diego State University*
 Kerry McDonald, *University of Missouri-Columbia*
 Neal McReynolds, *Texas A&M International*
 Lisa Meffert, *Rice University*
 Michael Meighan, *University of California, Berkeley*
 Scott Meissner, *Cornell University*
 John Merrill, *Michigan State University*
 James Mickle, *North Carolina State University*
 Alan Molumby, *University of Illinois at Chicago*
 Nicholas Money, *Miami University*
 Alex Motten, *Duke University*
 Rita Moyes, *Texas A&M College Station*
 Greg Nishiyama, *College of the Canyons*
 Jane Noble-Harvey, *Delaware University*
 Richard Norman, *University of Michigan-Dearborn*
 Steven Norris, *California State, Channel Islands*
 Steve Nowicki, *Duke University*
 Linda Ogren, *University of California, Santa Cruz*
 Jeanette Oliver, *St. Louis Community College, Florissant Valley*
 Laura J. Olsen, *University of Michigan*
 Catherine Ortega, *Fort Lewis College*
 Charissa Osborne, *Butler University*
 Thomas Owens, *Cornell University*
 Penny Padgett, *University of North Carolina at Chapel Hill*
 Kevin Padian, *University of California, Berkeley*
 Dianna Padilla, *State University of New York, Stony Brook*
 Daniel Papaj, *University of Arizona*
 Ronald Patterson, *Michigan State University*
 Debra Pearce, *Northern Kentucky University*
 Beverly Perry, *Houston Community College*
 David Pfennig, *University of North Carolina at Chapel Hill*
 Daniel Potter, *University of California, Davis*
 Andy Pratt, *University of Canterbury*
 Mitch Price, *Pennsylvania State*
 Val Raghavan, *Ohio State University*
 Talitha Rajah, *Indiana University Southeast*
 Thomas Rand, *Saint Mary's University*
 Ahnya Redman, *Pennsylvania State*
 Bruce Reid, *Kean University*
 Douglas Rhoads, *University of Arkansas*
 Carol Rivin, *Oregon State University*
 Laurel Roberts, *University of Pittsburgh*
 William Roosenburg, *Ohio University*
 Neil Sabine, *Indiana University East*
 Tyson Sacco, *Cornell University*
 Rowan Sage, *University of Toronto*
 K. Sathasivan, *University of Texas, Austin*
 Gary Saunders, *University of New Brunswick*
 David Schimpf, *University of Minnesota Duluth*
 Robert Schorr, *Colorado State University*
 David Schwartz, *Houston Community College*
 Christa Schwintzer, *University of Maine, Orono*
 Shukdeb Sen, *Bethune-Cookman College*
 Wendy Sera, *Seton Hill University*
 Timothy Shannon, *Francis Marion University*
 Joan Sharp, *Simon Fraser University*
 Victoria C. Sharpe, *Blinn College*
 Richard Sherwin, *University of Pittsburgh*
 James Shinkle, *Trinity University*
 Richard Showman, *University of South Carolina*
 Anne Simon, *University of Maryland*
 Alastair Simpson, *Dalhousie University*
 Roger Sloboda, *Dartmouth University*
 John Smarrelli, *Le Moyne College*
 Kelly Smith, *University of North Florida*
 Nancy Smith-Huerta, *Miami Ohio University*
 Amanda Starnes, *Emory University*
 Margery Stinson, *Southwestern College*
 James Stockand, *University of Texas Health Science Center, San Antonio*
 Antony Stretton, *University of Wisconsin-Madison*
 Mark Sturtevant, *University of Michigan-Flint*
 Judith Sumner, *Assumption College*
 Rong Sun Pu, *Kean University*
 Marshall Sundberg, *Emporia State University*
 Lucinda Swatzell, *Southeast Missouri State University*
 Janice Swenson, *University of North Florida*
 David Tauck, *Santa Clara University*
 John Taylor, *University of California, Berkeley*
 Thomas Terry, *University of Connecticut*
 Cyril Thong, *Simon Fraser University*
 Robert Thornton, *University of California, Davis*
 Stephen Timme, *Pittsburg State University*
 Leslie Towill, *Arizona State University*
 James Traniello, *Boston University*
 Constantine Tsoukas, *San Diego State University*
 Marsha Turell, *Houston Community College*
 Catherine Uekert, *Northern Arizona University*
 Gerald Van Dyke, *North Carolina State University*
 Brandi Van Roo, *Framingham State College*
 Moira Van Staaden, *Bowling Green State*
 Neal Voelz, *St. Cloud State University*
 Jyoti Wagle, *Houston Community College*
 Edward Wagner, *University of California, Irvine*
 D. Alexander Wait, *Southwest Missouri State University*
 Beth Wee, *Tulane University*
 Matt White, *Ohio University*
 Elizabeth Willott, *University of Arizona*
 Bill Wischusen, *Louisiana State University*
 Clarence Wolfe, *Northern Virginia Community College*
 Linda Yasui, *Northern Illinois University*
 Zai Ming Zhao, *University of Texas, Austin*