



EDUCATION

Innovations Liven Up Undergraduate Science Classes

A comic book may seem like an odd choice for assigned reading in a college class, but biology professor Jay Hosler has transformed the medium into a resource for his undergraduate students. Where comics are best known for telling the stories of superheroes and goofy teenagers, *Clan Apis* and other Hosler comics instead explore the evolution of the eye, the stages of cell division, and the life cycle of the honey bee.

“Comic books are an example of a great innovative education model to reach students who are nervous or not confident in the science classroom,” said Hosler, explaining his second life as comic author and illustrator at Juniata College in Huntingdon, Pennsylvania.

Hosler’s color-splashed pages were among the intriguing resources discussed at the 2008 Course, Curriculum, and Laboratory Improvement (CCLI) conference held 13 to 15 August in Washington, D.C.

The event, cosponsored by AAAS, brought together more than 500 stakeholders in an effort to transform science, technology, engineering, and mathematics (STEM) teaching on college campuses across the country.

Since 1999, the National Science Foundation (NSF) has distributed grants to colleges and universities through the CCLI program, encouraging them to adopt a more innovative approach to STEM teaching. Last year, NSF provided around \$67.5 million supporting 262 new initiatives on 203 campuses around the country.

AAAS’s Education and Human Resources (EHR) division has been a partner in the initiative since organizing the first CCLI conference in 2004. This year’s event is in keeping with AAAS’s mission to improve STEM curricula and help science faculty collaborate with their colleagues across disciplines, said EHR Deputy Director Yolanda George.

“Undergraduate courses are usually the last chance we get to help citizens and future leaders understand the nature of science and the

importance of STEM to our lives—as individuals and as members of the larger society,” said EHR Director Shirley Malcom. “We can’t emphasize enough how important it is to improve education at this level.”

The meeting’s participants shared their own innovative lesson plans, which included a wall-climbing robot with gecko feet, the materials engineering of a snow ski, and geometry concepts illustrated by the students’ own drawings and sculptures.

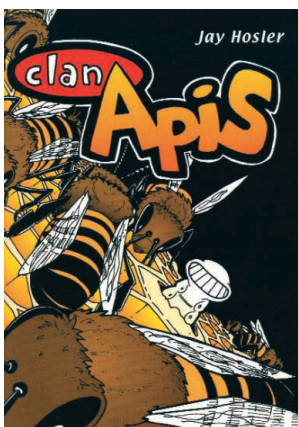
Another way that the CCLI program has encouraged science teaching for nonscience majors is to “focus more on public and civic issues such as sustainability and the ethics of genetic engineering and the use of nanotechnology in consumer products,” said Myles Boylan, one of the directors of the CCLI program. “Science has so much to say about this, and students find it very motivating.”

Many of Hosler’s students are interested in becoming primary or elementary school teachers, but they “are scared out of their minds about science,” he said. “And if they are afraid of science, there is no way they could teach it well. We need to show them that they can not only learn about it but, eventually, teach it to the next generation.”

Jeanne Narum, director of Project Kaleidoscope, an informal alliance to improve undergraduate STEM education, said colleges and universities are sometimes hesitant to try new educational approaches because the ability of the new models to increase student comprehension is untested or not widely understood.

Evaluating new STEM methods is a critical part of the CCLI program, according to Boylan. “We’ve heard it loud and clear from our grantees: ‘Help us do a better job of assessing our projects,’” he said.

Robert Grossman, a professor of chemistry at the University of Kentucky, said faculty members might be able to convince their university’s administrators to implement innovative programs by showing that they are in the institution’s best interest.



Clan Apis follows the life cycle of a bee named Nyuki.

Several years ago, Grossman said, his institution discovered that students receiving low or failing grades in chemistry were more likely to withdraw from the course or college as a whole, at great expense to the university.

In an effort to increase student success, a colleague of Grossman used a CCLI grant to develop ChemExcel, a peer-led tutoring program for undergraduates in chemistry. Grossman said the University of Kentucky eagerly supported the program after it was shown to reduce student failure rates.

—Benjamin Somers

INTERNATIONAL

An Emerging Engagement on Rwandan Education

A high-level AAAS delegation pledged to work with top Rwandan science and education leaders on development of science-related curricula during 2 days of meetings in the central African nation.

The talks on 27 and 28 August focused on Rwanda’s plan to use science and technology to drive economic growth and build human capital as it continues to recover from the 1994 genocide that left nearly 1 million people dead.

Throughout the meetings, Rwandan Education Minister Daphrosa Gahakwa, Science Minister Romain Murenzi, and other key S&T officials stressed that education will be critical to the plan’s success. Representing AAAS were Shirley Malcom, head of Education and Human Resources; Vaughan Turekian, chief international officer; and Sarah Banas, program associate in the International Office.

“During our visit we were again reminded of the central role that Rwanda’s leadership is placing on science and technology in their development strategy,” said Turekian. “This provides a very good opportunity for AAAS and other science-based organizations to share experiences and work together to help build capacity.”

Malcom said AAAS will provide Rwandan officials with science education resources developed by Project 2061, the association’s pioneering science literacy initiative.

Over the past year, AAAS and Rwandan leaders have built a promising relationship. Last October, AAAS Board Chair David Baltimore visited Rwandan President Paul Kagame and other officials. Kagame traveled to Boston in February to deliver a plenary address at the AAAS Annual Meeting.

ELECTIONS

AAAS Annual Election: Preliminary Announcement

The 2008 AAAS election of general and section officers will be held in November. All members will receive a ballot for election of the president-elect, members of the Board of Directors, and members of the Committee on Nominations. Members registered in more than one section will receive ballots for elections for each section they are enrolled in.

Candidates for all offices are listed below. Additional names may be placed in nomination for any office by petition submitted to the Chief Executive Officer no later than October 26. Petitions nominating candidates for president-elect, members of the Board, or members of the Committee on Nominations must bear the signatures of at least 100 members of the Association. Petitions nominating candidates for any section office must bear the signatures of at least 50 members of the section. A petition to place an additional name in nomination for any office must be accompanied by the nominee's curriculum vitae and statement of acceptance of nomination.

Biographical information for the following candidates will be enclosed with the ballots mailed to members in October.

Slate of Candidates

GENERAL ELECTION

President: Alice Huang, California Institute of Technology; Harold Mooney, Stanford Univ.

Board of Directors: Jerry Melillo, Marine Biological Laboratory; Julia Phillips, Sandia National Laboratories; David Sabatini, NYU Medical Ctr.; Maria Elena Zavala, California State Univ., Northridge.

Committee on Nominations: Steven Chu, Lawrence Berkeley National Laboratory; Jack Dixon, Howard Hughes Medical Institute; Jonathan Dordick, Rensselaer Polytechnic Institute; Steven Fienberg, Carnegie Mellon Univ.; Paul Friedman, UCSD Medical Center; M.R.C. Greenwood, UC-Davis; Susan Hackwood, California Council on Science & Technology; Sallie Keller-McNulty, Rice Univ.

SECTION ELECTIONS

Agriculture, Food, and Renewable Resources

Chair Elect: Harry Klee, Univ. of Florida; Brian Larkins, Univ. of Arizona

Member-at-Large of the Section Committee: Barbara Valent, Kansas State Univ.; Jeff Volenc, Purdue Univ.

Electorate Nominating Committee: Charles Brummer, Univ. of Georgia; Candace Haigler, North Carolina State Univ.; Ann Hirsch, UCLA; Mark Sorrells, Cornell Univ.

Council Delegate: Daniel Cosgrove, Pennsylvania State Univ.; Stanley Roux, Univ. of Texas, Austin

Anthropology

Chair Elect: Clark Larsen, Ohio State Univ.; Christopher Ruff, Johns Hopkins Univ.

Member-at-Large of the Section Committee: Carol Ward, Univ. of Missouri; Sarah Williams-Blangero, Southwest Foundation for Biomedical Research

Electorate Nominating Committee: Daniel Brown, Univ. of Hawaii; Dolores Piperno, Smithsonian Institute; Dawnie Wolfe Steadman,inghamton Univ.; Anne C. Stone, Arizona State Univ.

Astronomy

Chair Elect: Alan P. Boss, Carnegie Institution of Washington; Mario Livio, Space Telescope Science Institute

Member-at-Large of the Section Committee: Jack O. Burns, Univ. of Colorado; Donald Campbell, National Astronomy and Ionosphere Ctr.

Electorate Nominating Committee: Giovanni G. Fazio, Harvard Smithsonian Ctr. for Astrophysics; Arlo U. Landolt, Louisiana Univ.; James E. Neff, College of Charleston; Michael Werner, Jet Propulsion Laboratory

Atmospheric and Hydrospheric Sciences

Chair Elect: Alan Robock, Rutgers Univ.; Donald Weebles, Univ. of Illinois

Member-at-Large of the Section Committee: Leo Donner, Geophysical Fluid Dynamics Laboratory; Kevin E. Trenberth, National Center for Atmospheric Research

Electorate Nominating Committee: Jim Coakley, Oregon State Univ.; Qiang Fu, Univ. of Washington; Margaret (Peggy) Lemone, National Center for Atmospheric Research; Mark H. Thieme, UCSD

Biological Sciences

Chair Elect: Trudy Mackay, North Carolina State Univ.; James R. Spotila, Univ. of Arkansas

Member-at-Large of the Section Committee: Nipam H. Patel, UC-Berkeley; Margaret Werner-Washburne, Univ. of New Mexico

Electorate Nominating Committee: Chris T. Amemiya, BRI, Virginia Mason Medical Ctr.; Joan W. Bennett, Rutgers Univ.; Judith Berman, Univ. of Minnesota; Eric Ursell Selker, Univ. of Oregon

Chemistry

Chair Elect: Charles Casey, Univ. of Wisconsin-Madison; Dale Poulter, Univ. of Utah

Member-at-Large of the Section Committee: Peter Wipf, Univ. of Pittsburgh; Ronald Woodard, Univ. of Michigan College of Pharmacy

Electorate Nominating Committee: Jonathan Ellman, UC-Berkeley; Charles Craik, UC-San Francisco; Brian Stoltz, California Institute of Technology; Amos B. Smith, III, Univ. of Pennsylvania

Dentistry and Oral Health Sciences

Chair Elect: Francis Macrina, Virginia Commonwealth Univ.; Margarita Zeichner-David, Univ. of Southern California

Member-at-Large of the Section Committee: Richard Lamont, Univ. of Florida; Ira B. Lamster, Columbia Univ. College of Dental Medicine

Electorate Nominating Committee: Peter Ma, Univ. of Michigan School of Dentistry; Laurie McCauley, Univ. of Michigan School of Dentistry; Frank Scannapieco, School of Dental Medicine Univ. at Buffalo; Robert G. Quivey Jr., Univ. of Rochester

Education

Chair Elect: Joe Krajcik, Univ. of Michigan; Mary Nakkhleh, Perdue Univ.

Member-at-Large of the Section Committee: Angelo Collins, Knowles Science Teaching Foundation; Jay B. Labov, National Academy of Science

Electorate Nominating Committee: Mary Atwater, Univ. of Georgia; Linda Froschauer, Weston Public Schools; Jon D. Miller, Michigan State Univ.; Suzanne O'Connell, Wesleyan Univ.

Engineering

Chair Elect: H. Vincent Poor, Princeton Univ.; Duncan T. Moore, The Institute of Optics

Member-at-Large of the Section Committee: Christine Maziar, Univ. of Notre Dame; Jerome Schultz, UC-Riverside

Electorate Nominating Committee: Rena Bizios, Univ. of Texas, San Antonio; Kathy Ferrara, UC-Davis; Kristen Fichthorn, Univ. of Pennsylvania; Pradeep Khosla, Carnegie Mellon Univ.

Council Delegate: Jose Cruz, Ohio State Univ.; Gail H. Marcus, Consultant; James L. Merz, Univ. of Notre Dame; C.D. (Dan) Mote Jr., Univ. of Maryland

General Interest in Science and Engineering

Chair Elect: Charles Lytle, North Carolina State Univ.; Kathryn D. Sullivan, Ohio State Univ.

Member-at-Large of the Section Committee: Sharon M. Friedman, Lehigh Univ.; Alexander Polonsky, Marine Hydrophysical Institute

Electorate Nominating Committee: Suzanne Gage Brainard, Univ. of Washington; Robert Griffin, Marquette Univ.; Marilee Long,

Colorado State Univ.; Gloria J. Takahashi, La Habra High School

Geology and Geography

Chair Elect: Malcolm Hughes, Univ. of Arizona; Stephen Jackson, Univ. of Wyoming

Member-at-Large of the Section Committee: Sally P. Horn, Univ. of Tennessee; Jean Lynch-Stieglitz, Georgia Institute of Technology

Electorate Nominating Committee: Elizabeth Canuel, College of William & Mary; Eugene Domack, Hamilton College; Timothy Fisher, Univ. of Toledo; David Stahle, Univ. of Arkansas

History and Philosophy of Science

Chair Elect: Richard Creath, Arizona State Univ.; Jeffery L. Sturchio, The Merck Company Foundation *Member-at-Large of the Section Committee:* Robert Brandon, Duke Univ.; Heather Douglas, Univ. of Tennessee

Electorate Nominating Committee: Mark Largent, James Madison College; Nancy Nersessian, Georgia Institute of Technology; Peter Railton, Univ. of Michigan; Alain Touwaide, Smithsonian Institution

Council Delegate: Jane Maienschein, Arizona State Univ.; Virginia Trimble, UC-Irvine

Industrial Science and Technology

Chair Elect: Jennie C. Hunter-Cevera, Univ. of Maryland Biotechnology Institute; Vijayan Nair, Univ. of Michigan

Member-at-Large of the Section Committee: Manuel Gomez, Univ. of Puerto Rico; Harry S. Hertz, NIST

Electorate Nominating Committee: Robert Boily, Inforex Inc.; Quinghuang Lin, IBM; John Pizzonia, Fujifilm Life Science's Applications Laboratory; Harold Schonhorn, retired

Council Delegate: Orlando Auciello, Argonne National Laboratory; Steven Popper, The Rand Corporation

Information, Computing, and Communication

Chair Elect: Bart Selman, Cornell Univ.; Manuela Veloso, Carnegie Mellon Univ.

Member-at-Large of the Section Committee: Julia Gelfand, UC-Irvine; John (Jack) Hill, USGS *Electorate Nominating Committee:* Christine Borgman, UCLA; Bonnie Carol, Information International Associates; Casimir Kulikowski, Rutgers Univ.; William Woods, ITA Software

Linguistics and Language Science

Chair Elect: David W. Lightfoot, Georgetown Univ.; Thomas Wasow, Stanford Univ.

Member-at-Large of the Section Committee: Suzanne Flynn, MIT; Mark Liberman, Univ. of Pennsylvania

Electorate Nominating Committee: William J. Poser, Yinka Dene Language Institute; Edward Stabler, UCLA; Elizabeth Traugott, Stanford Univ.; Douglas H. Whalen, Haskin Laboratories Mathematics

Chair Elect: Kenneth Millett, UC-Santa Barbara; Williams Velez, Univ. of Arizona

Member-at-Large of the Section Committee: Tony F. Chan, National Science Foundation; Carl C. Cowen, Indiana University-Purdue Univ.

Electorate Nominating Committee: Douglas Arnold, Univ. of Minnesota; Jonathan Borwein, Dalhousie Univ.; Wade Ellis, West Valley Community College; Robert M. Fossum, Univ. of Illinois, Urbana-Champaign

Medical Sciences

Chair Elect: Gary A. Koretsky, Univ. of Pittsburgh School of Medicine; Judy Lieberman, Harvard Medical School

Member-at-Large of the Section Committee: Robert Doms, Univ. of Pennsylvania; Rino Rappuoli, Chiron Corporation

Electorate Nominating Committee: Wendy Brown, Washington State Univ.; Beverly Davidson, Univ. of Iowa; Phil Greenberg, Univ. of Washington; Thomas B. Nutman, National Institutes of Health

Council Delegate: Ety (Tika) Benveniste, Univ. of Alabama, Birmingham; Terence Dermody, Vanderbilt Univ.; James M. Hughes, Emory Univ.; Marcelo Jacobs-Lorena, John Hopkins School of Public Health; Jennifer M. Puck, UC-San Francisco; Reed Pyeritz, Univ. of Pennsylvania; Gwendalyn J. Randolph, Mount Sinai School of Medicine; Douglas Richman, UC-San Diego; Paul Rothman, Univ. of Iowa; Thomas Wellems, National Institutes of Health

Neuroscience

Chair Elect: Nominees to be announced

Member-at-Large of the Section Committee: Richard Haganir, John Hopkins Univ.; Gail Mandel, Oregon Health & Science Univ.

Electorate Nominating Committee: Erik D. Herzog, Washington Univ.; Frank LaFerla, UC-Irvine; Michael S. Wolfe, Harvard Medical School/Brigham and Women's Hospital; Tony Wyss-Coray, VA Palo Alto Health Care System

Pharmaceutical Science

Chair Elect: Kenneth Thummel, Univ. of Washington; Gary Pollack, Univ. of North Carolina

Member-at-Large of the Section Committee: William Beck, Univ. of Illinois; David Ross, Univ. of Colorado

Electorate Nominating Committee: Per Artursson, Uppsala Univ.; Kenneth Brouwer, Qualst; Donald E. Mager, Univ. at Buffalo; Craig K. Svensson, Purdue Univ.

Physics

Chair Elect: S. James Allen, UC-Santa Barbara; Charles W. Clark, NIST

Member-at-Large of the Section Committee: Richard F. Casten, Yale Univ.; Alexander L. Fetter, Stanford Univ.

Electorate Nominating Committee: Patrick D. Gallagher, NIST; Elizabeth H. Simmons, Michigan State Univ.; Michael Witherell, UC-Santa Barbara; Ali Yazdani, Princeton Univ.

Psychology

Chair Elect: Judy Deloache, Univ. of Virginia; Stephen Suomi, National Institutes of Health

Member-at-Large of the Section Committee: Randolph Blake, Vanderbilt Univ.; Jenny Saf-
fran, Univ. of Wisconsin

Electorate Nominating Committee: Randall Engle, Georgia Tech; Denise Park, Univ. of Texas, Dallas; Barbara Rolls, Pennsylvania State Univ.; David Shapiro, UCLA

Council Delegate: Bennett I. Bertenthal, Indiana Univ.; John Gabrieli, MIT

Social, Economic, and Political Sciences

Chair Elect: Eugene Rosa, Washington State University; Cora B. Marrett, National Science Foundation

Member-at-Large of the Section Committee: Ronald J. Angel, Univ. of Texas, Austin; Wendy Baldwin, Population Council

Electorate Nominating Committee: Anil Deolalikar, UC-Riverside; Don C. Des Jarlais, Albert Einstein College of Medicine; Howard Leventhal, Rutgers Univ.; Robert F. Rich, Univ. of Illinois

Council Delegate: Nicholas Christakis, Harvard Medical School; Guillermina Jasso, New York University

Societal Impacts of Science and Engineering

Chair Elect: Bruce Lewenstein, Cornell Univ.; Stephen D. Nelson, Virginia Tech. Univ.

Member-at-Large of the Section Committee: Kevin Finneran, Issues in Science and Technology; Melanie Leitner, Prize4Life

Electorate Nominating Committee: Lida Anestidou, The National Academies; Ezra Heitowit, Universities Research Association, Inc.; Robert M. Simon, US Senate Committee on Energy & Natural Resources; Michael L. Telson, Univ. of California System

Statistics

Chair Elect: Joel B. Greenhouse, Univ. of Pittsburgh; Jessica Utts, UC-Irvine

Member-at-Large of the Section Committee: Charmaine Dean, BC Cancer Agency; Kenneth W. Wachter, UC-Berkeley

Electorate Nominating Committee: Paul P. Biemer, Univ. of North Carolina; May A. Foulkes, George Washington Univ.; Subir Ghosh, UC-Riverside; Nancy Reid, Univ. of Toronto

Science

AAAS News and Notes

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