

Iowa Academy of Science

The New Bulletin

Volume 1 Number 3 Fall 2005



The Iowa Academy of Science is established to further scientific research and its dissemination, education in the sciences, public understanding of science, and recognition of excellence in these endeavors.

Message from the Executive Director

We are pleased to have our new office manager, Toni Arends, on the job. Toni has replaced Susan DeBord who recently moved to Sacramento, California, taking a position as a sales representative for a software company. Please call Toni at 319-273-2021 or e-mail her at iascience@uni.edu for routine business with the Academy office. You will find her to be both friendly and eager to help. We are thrilled to have Toni on our staff.

A renewed emphasis on science and mathematics education is just around the corner and the Academy is pursuing partnerships to support existing and new educational programs for teachers, students, and the general public. We must be better informed about the role science and mathematics play in our society in order to encourage the graduation of more scientists, science and math educators, and a technically qualified workforce.

Science education is not only for future scientists and science educators. A working knowledge of science and mathematics is more and more important for workers in our society. Parents, students, and the general public must understand the importance of taking science and mathematics courses in elementary and secondary schools. The future of our economic vitality depends on it.

Please visit the Academy website at www.iacad.org for the latest updates on IAS activities. Our new members only section will be available soon. In the meantime, on behalf Marcy, Toni, Jason, Kelsie, and I in the IAS office, enjoy Iowa's autumn season.

Craig Johnson, Executive Director

A Memorial to Charles Drewes 1947 – 2005



When Charlie Drewes died of a heart attack on July 4th a beloved friend left the scientific community. Charlie was a professor in the Ecology, Evolution and Organismal Biology Department at Iowa State University (ISU) and was an active and influential member of the Iowa Academy of Science where he served on the Board of Directors. He was an inspiration and a mentor to scientists, teachers, and students. A friend and teacher summed up the thoughts that many of us have for Charlie:

"He was tireless in his support of so many people, from a seventh grader in Florida, working on a science project, to his colleagues at major universities. I think some of his most valued relationships were with the high school teachers he so enjoyed helping at Lakeside Labs, the National Association of Biology Teachers, the Iowa Science Teachers Section of the Iowa Academy of Science, and many others. So many students have benefited from Charlie's inspiration to teachers across the nation. His dedication to *teaching*, a rare commitment at a university, is what I admired most about him."

He received Iowa State's Outstanding Teacher Award (1991), the Distinguished Iowa Science Teacher Award from the Iowa Academy of Science (1998), the NABT Four-Year College Biology Teaching Award (2002) and became a Fellow of the Academy in 2005. Charlie Drewes received a BA in Biology from Augustana College (SD) and an MS and PhD in zoology from Michigan State University. His research focused on rapid escape reflexes and locomotion, especially in oligochaete worms. He taught courses in invertebrate biology, neurobiology and bioethics. During summers, he led hands-on, residential workshops for high school biology teachers at Iowa Lakeside Lab. Year-round; he was actively engaged in educational outreach projects and presentations. The membership of the Iowa Academy of Science has been honored to have Charlie as a friend.



Focus on an Institutional Member

Buena Vista University

Founded by the Presbyterian Church (USA) in 1891, Buena Vista University is an independent, regionally-acclaimed, comprehensive teaching institution. With approximately 1,300 undergraduate and graduate students on its main campus in Storm Lake plus an additional approximately 1,500 students at 15 branch sites throughout Iowa, BVU still honors its founding motto, "Education for Service." The curriculum is designed to produce graduates who are prepared to live responsibly and joyfully, fulfilling their promise as individuals as well as their obligations as citizens of a global community.

BVU offers undergraduate degrees in more than 40 major fields of study and 15 pre-professional programs, with a balance between traditional liberal arts courses and innovative experiential learning opportunities that require the practical application of knowledge. Dedicated to student enlightenment and discovery in science education, the University places emphasis on students' *doing* science, in addition to *learning* science.

BVU students develop a true understanding of science through experiential learning (experimentation, internships, student teaching, and study-travel are examples), collaboration (students and faculty work in teams to solve problems that may span across the disciplines of science and beyond), and the application of knowledge to service (students apply their practice of science for the good of society through service projects). Capturing the excitement of discovery and combining with it a dash of imagination, BVU professors help students design projects that hold a special allure as they convert theory into practice.

BVU President Fred Moore has called the science program and the campus' new \$26 million Estelle Siebens Science Center "an investment in the future of our society, which will demand service and leadership in allied health professions and scientific exploration to master the challenges of today and tomorrow." Dr. Rick Lampe, professor of biology at BVU and past president of the Iowa Academy of Science, says that the school's membership in the IAS is an outcome of BVU's drive to be part of the scientific community: "The IAS gives Buena Vista University yet another way to support scientific activities across the state."



Buena Vista University's Estelle Siebens Science Center

Visit <http://www.bvu.edu/> for more information about the BVU campus and science programs.

Please plan to join IAS on April 21st and 22nd, 2006 on the Buena Vista University Campus for the 119th Annual Meeting of the Iowa Academy of Science. Sessions will be held within the new Estelle Siebens Science Center. Watch the IAS website for program announcements and conference details.



Table of Contents

ED Message	1
In Memory of Charlie Drewes	1
Spotlight on an Institutional Member	2
ISTS Fall Conference Highlight	3
ISTS Registration.....	4
Return of ISTJ.....	5
Focus on New Fellows.....	5
Institutional Members.....	6

ISTS Fall Conference
Keynote Speaker, Dr. Robert Yager



Robert Yager was employed in 1956 as Acting Head of the Science Education program and Chair of the Department of Science in the University Laboratory Schools. Upon completion of the Ph.D. he was appointed to a tenure position as an Assistant Professor; he was promoted to full professor in 1967.

During his 48 years at the University of Iowa, Yager has served as president of seven national organizations, including the National Association for the Education of Teachers of Science, the National Science Teachers Association, and the National Association for Research in Science Teaching. He has directed over 100 NSF institutes for teachers and workshops for high school students. He has published over 600 books, chapters, and research reports. He has received many honors including the Carleton Award by NSTA (1977) and Distinguished Service (1986), Governor's Science Medal (1990), Vasconceles World Award of Education (1988), ICASE Distinguished Service (1999), and ISMC Lifetime Distinguished Service (1999). Yager has chaired 120 Ph.D. dissertations, served on another 100 Ph.D. committees, and chaired over 200 master's degree committees.

He assisted with implementing the visions of the National Science Education Standards and has led with Science-Technology-Society reforms around the world.

At his luncheon presentation, Dr. Yager will discuss the modern business of science education from his 50 year perspective--its past, present, and future in our ever-increasingly complex and interwoven society."

Iowa Science Teacher's Section
Fall Conference
October 19th and 20th, 2005
Polk County Convention Complex
Pre-registration Deadline: Oct. 10
Program and Registration
Available Online
<http://ists.pls.uni.edu/>

Special Thanks to the following loyal ISTS Fall Conference Sponsors:

Anderson-Erickson Dairy
Hach Company
Maytag of Newton, Iowa
Rockwell Collins
Iowa Space Grant Consortium
and
Scope Shoppe, Inc.

Section Breakfasts

The Chemical Education, Earth Science, and Elementary Science Teachers section annual business meeting and breakfasts will be held on the morning of the ISTS Fall conference 2005 at 7:30 am in the Luncheon Hall of the Polk County Convention Complex. Section Breakfast requires advanced registrations. The breakfasts are a chance for colleagues from formal and informal education disciplines to socialize and network; coordinated by discipline Section Chairpersons. Breakfast will be followed by a discussion of current state resources and election of new section chairs. All educators are welcome, however only IAS section members may vote for new section chair and vice chair.

Iowa Science Teachers Section of the Iowa Academy of Science

2005 FALL CONFERENCE Registration

Thursday, October 20, 2005
 "Standing on the Shoulders of Giants"

- Registration Includes Lunch
- The deadline for advance registration is October 10
- Refunds after October 10 are minus \$15
- Payment must be by check or money order
- We cannot accept Purchase Orders

Register in one of the following categories:

Pre-Registration Prior to October 10

(check one)

- ☐ Current IAS Member..... \$55.00
- ☐ Nonmember \$80.00
- ☐ Full-Time Student/Non-Teaching Spouse... \$25.00
- ☐ Conference Presenter..... \$45.00
 (Primary & Secondary Presenters Only) Session# ____ Presentation# ____

Pre-Registration after October 10

- ☐ Current IAS Member..... \$70.00
- ☐ Nonmember \$95.00
- ☐ Full-Time Student/ Non-Teaching Spouse \$25.00

Optional Breakfast Meeting Registration

(check one)

- ☐ Chemistry Section Breakfast & Business Mtg \$10.00
- (Earth Science Section Breakfast & Bus. Mtg \$10.00
- (Elementary Section Breakfast & Bus. Mtg..... \$10.00

Total Conference Fees

_____ I prefer a vegetarian lunch
 (please inform your server at luncheon)

Please Print Clearly

Name _____

Title _____

School Name _____

School Address _____

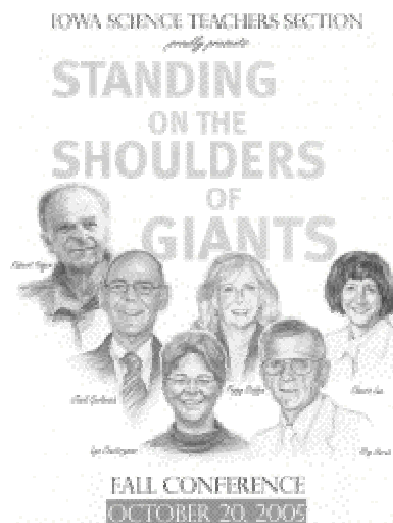
State _____ Zip _____

School Phone _____

Email _____

Please double check. Confirmation of your registration will only be sent via email.

AEA # _____ Grade level(s) taught _____



Special \$10 Discount Offer to those wanting to become new members of the Iowa Academy of Science

- ☐ Conference Registration with
 New IAS Membership for 2006..... \$120.00
 \$80 registration + \$40 membership (normally \$60)
- ☐ Full-Time Student Conference Registration and
 New IAS Student Membership for 2006 \$45.00
 \$25 registration + \$20 membership (normally \$30)

Make All Checks Payable to:
Iowa Academy of Science

Mail registration form and payment to:
 Aaron Spurr
 Malcolm Price Laboratory School
 1901 Campus Street
 Cedar Falls, IA 50613-3593

A receipt will be given to you when you arrive at the conference. Registration forms mailed just before the conference may not arrive in time to be processed. Please allow several days for mail delivery.

If you have questions, please contact Aaron Spurr at 319-273-7897 or at ajspurr@cfu.net. The information you provide is exclusively for the use of the Iowa Academy of Science and is not rented, sold, or shared with other organizations or businesses.

Online Registration and Program Available
at:
<http://ists.pls.uni.edu/>

The return of the Iowa Science Teachers Journal

The new electronic Iowa Science Teachers Journal is now available! This issue contains five excellent articles and can be accessed at the Iowa Science Teachers Section URL <http://ists.pls.uni.edu/>

The journal will be issued quarterly (August, November, February, and May). Thus all issues will arrive during the school year, when teachers are most likely to need and use ideas in the journal. While the electronic format is new, we wish to acknowledge the past efforts of many others who devoted their time and talents to publishing ISTJ before it was discontinued in 1994. Since we are reviving the former ISTJ, this issue is identified as the summer 2005 publication, Volume 32, Issue 3.

This issue and the next issue slated for release in November will be available free for anyone to access. After that, the four issues published in 2006 may only be accessed by members of the Iowa Academy of Science Iowa Science Teachers Section. Speaking for the entire ISTS leadership team and the ISTJ editorial team, we are determined to make ISTJ a very useful source for your professional development. We took on this responsibility because ISTS members deserve a journal that is devoted to helping them teach children. We encourage your feedback and hope to publish your comments in a *Letters to the Editor* section in upcoming issues of ISTJ.

Michael Clough, Editor, ISTJ

Joe Taylor, Managing Editor, ISTJ

IAS Honors New Fellows

RICK WELLS

Rick Wells teaches chemistry, biology and physics at Central High School in Davenport, Iowa. As a member of the Iowa Academy of Science he has served as Regional Director, the Exhibits Hall Coordinator. Currently, he serves as the Coordinator for Corporate



Sponsorship in the Iowa Science Teacher Section of IAS. "The ISTS Fall Conference has been a jump-start for my science teaching for nearly twenty years. It is an awesome day when hundreds of the best science teachers in the state can get together to share their experience in science education."

Rick has participated in the ALCOA program for academic and industrial partnership, the Iowa Chemistry Education Alliance through Iowa State, the Scope, Sequence and Coordination project through the University of Iowa, and the IOWATER project through the Iowa DNR. He has received the Excellence in Science Teaching Award in Chemistry in 1997, and the Distinguished Service Award through the Iowa Academy of Science in 2004 and was elected a fellow of the Iowa Academy of Science in 2005.

Nominate a current IAS member for Fellow status:
http://www.iacad.org/download/fellow_nomination.pdf

ERICA D. LARSON, PH.D.



Erica Larson is a Science Curriculum Consultant for Grant Wood AEA. She has served as ISTS Regional Director for AEA 10, Secretary, President-Elect, President and Past-President/Fall Conference Chair and recently ended a three year term on the Iowa

Academy of Science Executive Board.

When asked what led her to a career in science, Erica replies "I grew up on a farm around a grandfather who was a self-taught naturalist and have always loved solving problems and investigating the world around me. When I was very young I stayed up all night to watch the first walk on the moon on our black and white TV and I knew then I wanted to always experience that sense of wonder and discover in whatever career I chose. Teaching has provided me that sense of wonder and discover on a daily basis." Of becoming an IAS Fellow Erica says it "is an honor beyond words for me - I have always valued the friendships, both professional and personal, that I have been able to develop through my active involvement in the Iowa Science Teachers Section and through attending the Iowa Academy of Science Annual Meeting. We have a dynamic membership of scientists and science educators working side by side to promote science throughout the state. I encourage all scientists and science educators in the state of Iowa to join or if already a member to find avenues to become actively involved."



Iowa Academy of Science The New Bulletin

Volume 1 Number 3 Fall 2005

Iowa Academy of Science
175 Baker Hall – UNI
Cedar Falls, Iowa 50614-0508

Return Service Requested

The New Bulletin is a publication of the Iowa Academy of Science and is distributed to current IAS members 3-4 times per year.

Volume 1 Number 3 Fall 2005
also available online at: <http://www.iacad.org>
Copyright 2005. All rights reserved.
For copy permission, send a formal request to iascience@uni.edu.

Article Submission: The deadline for submission of articles for Vol. 1 #4 is December 1, 2005. Articles must be pre-approved. For more information contact Craig Johnson, IAS Executive Director, at ias@uni.edu.

Advertising Rates: Full page, single issue \$160; Half page, single issue \$60, two consecutive issues \$100; Business Card (3.5"x 2.0"), single issue \$30, two consecutive issues \$50. For more information or to submit an advertisement, contact iascience@uni.edu

Iowa Academy of Science Institutional Members

University of Northern Iowa, Cedar Falls
The Nature Conservancy, IA
Buena Vista University, Storm Lake
Cornell College, Mt. Vernon
Graceland University, Lamoni
Iowa State University, Ames
Kirkwood Community College, Cedar Rapids
Mount Mercy College, Cedar Rapids
Des Moines University, Osteopathic & Podiatric Medicine
Coe College, Cedar Rapids
Drake University, Des Moines
Grinnell College, Grinnell
Iowa Wesleyan College
The Putnam Museum, Davenport
University of Iowa, Iowa City
Wartburg College, Waverly