

Iowa Academy of Science

The New Bulletin

Volume 3 Number 1 Winter 2007



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

Hello from the IAS staff.

On behalf of Marcy, Toni, and our student workers Jason, Kelsie, and Abby, I hope you enjoyed your holiday and are excited about beginning 2007. This issue of the IAS Bulletin is packed with information about Academy activities and plans for the future.

I am frequently asked about the Academy and what benefits it offers its members. To be sure there are personal benefits to belonging to the Academy and we are striving to improve them. But more than personal benefits, the Academy offers its members a unique opportunity to directly participate in the advancement of science for all Iowans.

Simply speaking, the future direction of science does matter. We know that by looking at the work of past scientists and educators. Many of the benefits we enjoy today are directly attributed to them having a vision of the future and a willingness to act on that vision. In the same way our efforts and vision will directly impact future generations.

As a non-profit organization the Academy exists for the purpose of serving the public. They are our "stockholders." Because of that charge *advancing science research, science education, and the public understanding of science* is a statement of vision and action. Having the opportunity to directly contribute to the advancement of science in Iowa is the real benefit of being a member of the Iowa Academy of Science. The Academy encourages you to look for ways to become involved as we grow.

-Craig Johnson, Executive Director

New IAS Membership Brochure

All four aspects of the mission of the Iowa Academy of Science center around a vision of Iowa as a place science happens and the Academy as a vehicle for communicating among scientists and science teachers and between the science community and the public. We are a service organization and to fulfill our mission we must bring science to Iowa. The Academy is an opportunity to network with other science educators and scientists from all fields of science and from all academic levels. Throughout our long history, we have provided a place for Iowans to celebrate our scientific history and accomplishments. The new Iowa Academy of Science brochure is a celebration of our history, of our current activities and of our future opportunities. The brochure is designed by Iowa native artist Brian Seger and has been paid for in part through the Benchmark Fund. For copies, contact Toni Arends at iascience@uni.edu or 319-273-2021.

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EVOLUTION AND INTELLIGENT DESIGN CONFERENCE

From: Iowans for Religion and Science Dialogue

March 16-17, 2007

Wartburg College, Waverly, Iowa

Presenters

Dr. John Haught, PhD

Research Professor, Georgetown University

Dr. Wesley Elsberry, PhD

National Council for Science Education

Jennifer Miller

Teacher and witness in the Kitzmiller v. Dover, Pa. Trial

John Ayers

Retired attorney and Magistrate from Des Moines specializing in mediation and arbitration, Adjunct Professor at Waldorf College

Participants will choose three of the following workshops:

- 1: What is Intelligent Design?
- 2: Intelligent Design: Good Science? Good Religion?
- 3: History of the "Conflict" between Religion and Science
- 4: Relating Science and Religion
- 5: Interpreting Biblical Creation Stories
- 6: God after Darwin
- 7: Lessons from Kitzmiller v. Dover, PA

For more information and to register visit:

<http://www.iowa-rsd.org>

The primary purpose is to clarify issues surrounding the Evolution and Intelligent Design controversy and present tools to resolve conflict in the classroom and community. This conference is for K-12 educators, principals, school superintendents, school board members, clergy, parish educators, scientists, citizens with an interest in science and religion and college students in education, science, and religion/philosophy majors. Each attendee will receive a DVD produced specifically for this symposium.



Sponsors

This conference is being developed by Iowans for Religion and Science Dialogue and is supported by the John Templeton Foundation, The Iowa Academy of Science, Waldorf College, Wartburg College, Wartburg College Center for Community Engagement, National PASTCF-Central Iowa PASTCF, and Iowa Citizens for Science.



Invest in Iowa
Our Outdoors
Our Heritage
Our People

Resource Enhancement And Protection

REAP-CEP Program Funds Project WET

The Iowa Academy of Science has been awarded \$26,626 to support professional development workshops for preservice science and social studies methods students during 2007. The funding comes from the Resource Enhancement And Protection—Conservation Education Program, a state appropriated fund to support professional development in environmental education across Iowa. The Project WET facilitators will provide workshops for 400 preservice teachers and IAS staff will evaluate the role of this workshop with regard to the Iowa law that states that conservation of Iowa resources must be taught in every grade. An overview of the research IAS has conducted related to preservice participants' later implementation of the program is now available on the Iowa Academy of Science Website.

- Marcy Seavey, Program Director and Coordinator Iowa Project WET

National Outstanding New Biology Teacher

IAS Member, Alicia Schiller, is the 2006 winner of the National Outstanding New Biology Teacher Award. Annually, the National Association of Biology Teachers recognizes one "new" biology/life science (grades 7-12) who has developed an original and outstanding program or technique and made a contribution to the profession at the start of his/her career.



Alicia was presented her award at the Honors Luncheon on Friday, October 13, 2006, during NABT's National Professional Development Conference in Albuquerque, New Mexico. NABT was pleased to present Alicia with a plaque, \$500.00, a one-year complimentary membership in NABT. Ms. Schiller is a General Biology Instructor and Advanced Biology Instructor at Central Lee High School in Donnellson, Iowa. She sponsors a very active science research club, called the Central Lee Science Club focusing on individual/group science research projects.

119th Annual Meeting April 27th-29th 2007 Central College, Pella

Join your colleagues from across the state for the 119th Iowa Academy of Science Annual Meeting hosted among the tulips on the scenic Central College campus. New for 2007— a longer conference! More science, more networking, more field trips for the same low price! Join the IAS Staff for a picnic and bonfire on Saturday night. The Geology Field Trip will conclude the meeting on Sunday.

Abstract Submission

Instructions for submitting an abstract online are available at:
http://www.iacad.org/am/am07/abstract_submission.html

Abstract Submission Fees are \$35.00 for each IAS member presenting author and \$45.00 for each non-member presenting author. The submission fee includes Annual Meeting Conference Registration for each presenting author.

Please encourage your students and colleagues to submit research to be presented as a poster or oral presentation to one of the IAS's 12 Sections.

The deadline for abstract submission is Friday February 16th, 2007.

Tri Beta

IAS welcomes Tri-Beta to the 2007 Annual Meeting. Tri-Beta members from the North Central Tri-Beta region will present poster and oral presentations within IAS section meetings. The Tri-Beta presentations will be judged and scholarships/prizes will be awarded. IAS members will be needed to serve judges. If you would like to volunteer to be a judge, please contact the Section Chair for the section in which you wish to judge. You may choose between judging posters (Friday afternoon) or presentations (Saturday morning) All judges will receive a free pass to the Saturday evening picnic and bonfire.

Submit your abstract now!
www.iacad.org



Conference Highlights

General Session I (Friday 11:00 a.m.)

Phil Sumrall, Manager of Advanced Planning, Exploration Launch Projects Office; Marshall Space Flight Center
Working Title: **The Next Generation of Heavy Lift Launch Vehicles**

Awards Luncheon—Excellence in Science Teaching Awards and IAS Awards announced. Tri-Beta recognized.

Friday Afternoon Symposia

Symposium A: Endangered and Protected Species on Protected Lands by the Iowa Natural History Association

Symposium B: Biomass Fuels

David Rusley, Manager of Projects, Cedar Falls Utilities and Dr. Justinus A. Satrio, Associate Scientist, Center for Sustainable Environmental Technology, Iowa State University

Symposium C: LEED Program at Central College
Including a tour of a LEED certified facility.

President's Banquet—President's Message, Distinguished Awards Announced, New Fellows Recognized

General Session II (8:00 p.m. Fri.)

Dr. Dennis Darby, Old Dominion University, courtesy of Arctic Research Consortium of the United States (ARCUS), Visiting Speakers Series

The Role of the Arctic Ocean in Global Climate

General Session III (11:00 a.m. Sat.)

TBA, The Great Ape Trust
Celebrating Five Years: The Great Ape Trust

Saturday Picnic and Bonfire (Saturday evening) with Staff and IAS Board

Everyone is invited to Lake Red Rock Cabins for an evening of relaxation and conversation.

Geology Society of Iowa Field Trip (Sunday)

Financial Statements

Fiscal year 2007

(July 1, 2006-January 8, 2007)

Beginning with this issue a financial statement will become a regular feature of the IAS Bulletin. We would like members to become more informed about the Academy and a good way to do that is to follow our financial condition. Our total assets to date are taken from the Balance Sheet while the Profit & Loss statement reveals income and expenses since July 1, 2006. Please contact me if you have questions. In future issues I will address various aspects of these reports.

– Craig Johnson, Executive Director

Total number of individual members: 783

Total number of institutional members: 18

Total number of IJAS school memberships: 28

BALANCE SHEET

As of January 8, 2007

Assets

Checking Account	\$ 8,755.74
UNI Account	14,230.16
ISF Grant Fund	43,081.10
Saylorville Account	4,968.44
IJAS Visiting Scientists	2,567.08
GLOBE/REAP	19,280.92
TOTAL Checking/Savings	\$92,883.44

Other Assets

Accounts Receivable	\$8,246.08
Inventory - ISTS	1,360.11
Inventory - Saylorville	7,334.53
Fixed Assets	1,023.15
Education Programs	30,465.88
Benchmark Fund	2,224.26
Myrle Burke Endowment	57,698.10
Science Endowment Fund	12,211.71
J.A. Parrish Fund	501,656.00
Frank Starr IJAS	21,223.98
ISTS CD	3,038.62
TOTAL Other Assets	\$646,482.42

TOTAL ALL ASSETS **\$739,365.86**

PROFIT & LOSS

Fiscal Year 2007

July 1, 2006 – January 8, 2007

Ordinary Income / (Expense)

Journal of IAS	\$ 3,417.97
Iowa Science Foundation	43,081.10
Expedition Iowa	2,303.80
General Fund	-9,609.41
ISTS	15,081.53
IJAS	557.96
Education Programs	4,626.41
Saylorville	2,557.01
Interest/Dividends Earned	5,764.58
GROSS PROFIT	\$67,780.95

Expense

Payroll	Expenses	\$33,182.53
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NET Ordinary Income **\$34,598.42**

IAS Members' Only Website

How to find the members of your section in the Online Directory.

- Visit the IAS Website at: <http://www.iacad.org>
- Log into the Members' Only section with your username and password (your username is your email address, contact IAS if you have forgotten your password)
- Hold your mouse over the [Directory](#) menu, scroll down and click on [Advanced Search](#)
- Scroll down the page until you see the name of the section you wish to search.
- Click on the word 'yes' in the box under the section name.
- Click on any of the [Search](#) buttons.
- The directory will now list all of the members of that section for you!

EXPEDITION IOWA

The Academy's new initiative will promote science to the public, encourage tourism, and highlight scientific careers.

What's been awesome since long before sliced bread? Iowa's contributions to science! [Incidentally, the automated bread slicing machine was invented in Iowa by Otto Frederick Rohwedder in 1928. A couple of years ago a friend of mine from Washington State came to visit me and I took her to shop and have lunch in the Amana's. When we drove past the city limits sign she laughed and said, "What did they do, name this town after a refrigerator?" It was amazing to my friend that anything in her house other than ham and potatoes could have come from Iowa. And with a sigh of resignation I had to explain to her about Idaho, Iowa and the potato. It was amazing to me that anyone would assume that Iowa didn't have as much science going on as anyplace else, if not more. Perhaps you've had a similar experience?

Announcing the Academy's new project: Expedition Iowa! An initiative to celebrate and share all of Iowa's past, present and future science accomplishments with Iowa and the world. The vision of Expedition Iowa is to promote science wherever science happens in Iowa and to bring that science to the public.

Within the next year IAS will launch the Expedition Iowa website which will include a directory of science education centers, university and college outreach activities, parks and preserves, and other science related attractions that are open to the public. The directory will be searchable by region and by topic, so that a family with a child interested in fossils can discover the mammoth tooth sitting on a shelf in their own county museum and the permanent exhibit of Iowa fossils on display at the University of Northern Iowa Museum. Website users will be able to select an itinerary and then print a map with driving directions to each of the sites. But that's not all. What if you're taking your family on a scenic drive up Highway 76 near Marquette: You pull over next to an Upper Mississippi National Wildlife Refuge sign so your family can get a good look at the river and your 13 year old daughter says, "So what's so special about this place that it's protected?" Well if you've visited the Expedition Iowa website you can play the MP3 audio download "History of Conservation at the Upper Mississippi National Wildlife Refuge" in your minivan CD player. The 4 minute audio download is one in the Iowa Academy of Science series on the geology, ecology, and conservation history of Iowa's National Wildlife Refuges and features an Iowa Academy of Science member scientist telling the story of the site in his own words. The Expedition Iowa website will include resources created by IAS members and staff which help the public understand what is special about Iowa's wild places, what types of science happen in Iowa, and what opportunities are available for careers in science and engineering in Iowa. Website visitors may be able to submit feedback to the website and recommend their own Iowa science adventures. Expedition Iowa partners and sponsors may offer annual prizes for registered users who participate at a certain level. The possibilities are endless and only limited by the participation and enthusiasm of the Academy and our partners.

How much work for Expedition Iowa has already been done? The Iowa Space Grant Consortium has awarded IAS \$2500 to research and develop the program. Last June, Pat Finnerty and Craig Johnson hosted a meeting of possible Expedition Iowa partners to enlist their support and recommendations for the project. IAS and the Expedition Iowa Project has been selected by Project 33, an annual conference of Public Relations students and professionals as the conference project. As a result of the March conference, IAS will receive a PR plan for the program. IAS has submitted a grant proposal to the National Wildlife Refuge System Preserve America Grant Program to develop a series of 21 audio downloads about the geology, ecology and history of conservation on Iowa's 7 NWR sites. America's Lost Landscape Producer, David O'Shields will serve as the project manager for the audio series which will serve as a pilot program for future audio and video series about other Iowa science sites. The NWR grant, if funded will also assist IAS in developing the Expedition Iowa Website.

IAS was founded to further science research in Iowa, promote science education, recognize great science and assist the public in understanding science. The Expedition Iowa project will be a big step in reaching our goal of increasing public understanding of science and will bring attention to the Academy for our current and past contributions to science research and education in Iowa. I hope that, as an IAS member, you are as excited about this project as I am as an IAS staff person. I can envision kiosks at Interstate rest stops and an Academy Member exhibit at the State Historical building. But more than that I can envision tomorrow's young Iowan scientists asking themselves "why would I ever leave Iowa, the center of scientific achievement?" rather than "why should I stay?"

So let the IAS office know your ideas about how this project should grow and as Expedition Iowa opportunities are announced be sure to volunteer for those activities which interest you!

—Marcy Seavey, Program Director

A Message from Our President

Greetings to All:

As we begin the new year with a fresh start and new (old) resolutions, please consider the Academy. There are many exciting opportunities to connect with colleagues, learn and promote science.

In this issue of the Bulletin you will notice a description of the **Expedition Iowa** project. This will be a unique opportunity for all our membership to contribute their expertise in identifying, describing and promoting science related venues and activities throughout Iowa. Look for more information on this exciting Academy endeavor.

This spring the Annual IAS Meeting will be hosted by Central College in Pella. Beyond the tulips and spring flowers, the program looks to be quite interesting with sessions ranging from the terrestrial: *biomass generation of electricity, endangered and protected species and learning and communication in Great Apes*; through the near terrestrial: *arctic ocean and global climate*; to the extraterrestrial: *moon exploration and beyond*.

In addition to these sessions there will be opportunities for poster and platform presentations in our section sessions. These are an ideal venue for sharing and collaborating with colleagues throughout the state as well as providing our students with a chance to present their work.

Finally, to top off the meeting, a picnic and bonfire outing has been arranged at Lake Red Rock. This will feature a fun collegial experience, discussion of local bats and I am sure even some corny camp songs.

I invite and encourage all to participate in the 2007 Annual meeting as well as the other opportunities and activities of the Academy.

Pat Finnerty, IAS President



IAS Section Update:

So what is an Organismal Biologist?
Where does Evolution fit into Science?
Is Geology a career or a hobby?

Between now and the IAS Annual Meeting each IAS section is being asked to develop a section profile. The purpose of the profiles is to provide information to the general public about the depth and breadth of science that happens in Iowa, help new IAS members make their section selections, and help non-IAS members easily identify which section to submit a presentation proposal to. Each profile should include answers to the following three questions:

1. What is this science? (which fields are involved, what careers, where are these types of scientists employed?)
2. What topics are welcome as presentations to this section at the IAS Annual Meeting or the ISTS Fall Conference?
3. Does this section hold any special events or activities (like the ISTS Fall Conference, the Community College Biologists Fall Conference, or the Engineering Section Presentation Awards)?

The section profiles will be used on the Iowa Academy of Science website, in member recruitment publications, and in the development of new IAS programs, such as the Expedition Iowa Project. The profile is an opportunity for each section to define itself. Each section's profile will be approved by the section membership at the 2007 Annual Meeting, but these will be working documents. A section may review and make changes to the section profile annually. Please assist your section leaders in developing the profiles for the sections you belong by responding when your section chair asks for input or posting your ideas in your section's bulletin board topic at the IAS Member Only Website (login at: www.iacad.org).

Journal of the Iowa Academy of Science Update

We have good news about the Journal of the Iowa Academy of Science. New issues of the Journal will be on your doorstep soon. Two issues encompassing four volumes are at Allen Press now and other issues are in process. We expect the Journal to be current in the first half of this year and for its production to be regular and on time in the future. The Journal is a cornerstone of the Academy and is an important publication for the dissemination of scientific research.

The Academy is supporting streamlining the process of submitting and reviewing articles through the purchase of new software. We appreciate the efforts of the Journal Editor, Jeff Parmelee, as he works with Allen Press to make the production more efficient and accurate. Our Office Manager, Toni Arends, has also been working with Jeff to improve the communication between the IAS office, Jeff, and submitting authors.

The digitizing of the *Proceedings of the Iowa Academy of Science* continues to move forward. We should have more announcements about this project in the near future but this will be an exciting resource for anyone wanting to search its database. It will include the ability to do keyword searches of all articles.

Outstanding Earth Science Teacher Award

IAS Member Aaron Spurr, in a special luncheon presentation at the Iowa Science Teachers Section Fall Conference, was recognized the 2006 recipient of the NAGT Central Section Outstanding Earth Science Teacher Award. The award was presented by fellow IAS Member and NAGT representative, Sherman Lundy.

The Outstanding Earth Science Teacher (OEST) awards are given for "exceptional contributions to the stimulation of interest in the Earth Sciences at the secondary level." Middle school and high-school teachers are eligible.

Sherman Lundy (left) presents award to Aaron Spurr. Photo courtesy Tom Ervin.



Be an Active Member

The Iowa Academy of Science relies annually upon more than 70 volunteers to serve as Section Chairs/Vice Chairs, on Committees, on the Iowa Science Teaching Section Leadership Team, and on the Board of Directors. Being an IAS volunteer can be enjoyable and rewarding as you

work with fellow science teachers/scientists to further the mission of IAS. The Committee on Committees is currently seeking new volunteers to run for positions on the Board and ISTS leadership and to be appointed to various committees. Please contact the IAS office (iascience@uni.edu) or President-Elect Erica Larson (elarson@aea10.k12.ia.us) to volunteer and we will work with you to find a position which meets your interests.

Program Focus-Iowa Junior Academy of Science

The Iowa Academy of Science supports future Iowa scientists through the Iowa Junior Academy of Science.

The Iowa Space Grant Consortium has awarded IAS \$6,000/yr for 5 years in funding to support IJAS activities related to the IAS Annual Meeting but ONLY if IAS can match these funds annual to create an endowment for the IJAS Annual Meeting.

When you donate specifically to the IJAS Annual Meeting your money is helping to bring IJAS members to the IAS meeting, fund the Iowa representatives to the American Junior Academy of Sciences Conference, and fund two senior high school scholarships.

Specify where your IAS donation goes...

Iowa Academy of Science General Fund—Funding the day-to-day operations of the Academy. IAS Membership Dues do not account for all of the funding required to pay staff, publish newsletters and other member mailings, maintain the website, pay phone bills, etc. Until the Iowa Science Endowment is large enough to support the regular activities of the Academy, additional funds for general activities must be sought. If you do not select a place to allocate your donation and you donate less than \$250, your donation will be placed in this category.

Iowa Junior Academy of Science Annual Meeting—Includes meals and registration materials for Iowa Junior Academy of Science members to attend the IAS Annual Meeting, 2 \$500 scholarship awards, a trip for two 9th-11th graders and a chaperone to represent Iowa at the American Junior Academy of Science and a most promising young scientist award.

Iowa Junior Academy of Science Starr Student Research Grants—IAS provides \$1,000-\$2,000 in small grants to individual middle and high school students to support their science fair projects. The Student Programs Committee provides additional support to these students through grant proposal feedback and matching students to scientist mentors.

Iowa Academy of Science Annual Meeting—IAS collects only about 66% of the per person costs of this conference in registration fees. Donations to the Annual meeting are used to pay for the meals and registrations of ESTA and Distinguished Science Award winners, to pay travel for guest speakers, and for the various publications related to the conference.

Iowa Science Teachers Fall Conference—Iowa's Largest Science Teacher Conference. The Iowa Science Teachers Section of IAS raises their own funds to put on this conference each year. Donations to ISTS will assist in bringing in guest luncheon speakers and other event programming.

Iowa Science Endowment Fund—This fund was established to secure the long term financial success of the Academy. Donations of \$250 or more that are not designated specifically for other projects are automatically placed into this fund. A portion of the annual growth of this fund may be used by the IAS Board for IAS projects including general expenses.

Benchmark Fund—IAS uses the Benchmark fund to develop additional revenue for the Academy. For example, the new IAS Brochure, which will be used to gain new individual, institutional and for the first time in many years Corporate members, was paid for in part through the Benchmark Fund.



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Article Submission: The deadline for submission of articles for Vol. 3 #2 is March 1, 2007. 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 ias-science@uni.edu

Iowa Academy of Science Institutional Members

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Buena Vista University, Storm Lake
Coe College, Cedar Rapids
Cornell College, Mt. Vernon
Des Moines University, Osteopathic & Podiatric Medicine
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