

Iowa Academy of Science

The New Bulletin

Volume 9 Number 1 Spring 2013



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

Imagine if Iowa had an organization serving all STEM disciplines. Professionals from the academic community, business, industry, education, and students from elementary through graduate school would be part of one organization dedicated to the advancement of science technology, engineering, and mathematics. The members would be able to collaborate on projects, support education, provide expertise to decision makers, and promote goals common to all STEM disciplines including promoting research, education, and public literacy about STEM. It would be organized to serve the needs of individual disciplines and facilitate communication across disciplines.

That organization has been in existence since 1875. It is holding its 125th Annual Meeting at Simpson College in Indianola on April 19th and 20th. As a member of the Iowa Academy of Science you already recognize the importance of this organization. There are many other professionals in Iowa who do not know about the Academy or do not understand the importance of having an independent professional organization that supports all science related disciplines.

Some may argue that the organization is the Iowa Academy of Science not the Iowa Academy of STEM. The fact of the matter is all STEM disciplines are related. While each has an important role to play at the end of the day they are inseparable. The Academy's structure is not static. It allows for the establishment of new sections and encourages the sections to govern themselves under the umbrella of the Academy mission and bylaws. The Academy does not absorb disciplines; rather it encourages them to thrive and provides support for their activities. It has room to grow.

(continued on page 7)

Seeking Project WET Facilitators

Since 1996, Iowa Project WET Facilitators have provided professional development for over 5000 Iowa in-service and pre-service Educators. The Academy is seeking new individuals from across Iowa to join our facilitator team! Each facilitator is asked to lead a 6-hour Preservice Project WET workshop annually and is free to also set up additional workshops and events following the Project WET Guidelines. Facilitators receive materials and support and generally a small stipend for each successful workshop. If you are passionate about Iowa's Water Quality, please consider joining our team!

The Iowa Academy of Science will offer a Project WET Facilitator Certification Workshop on June 17 -19, 2013 on the University of Northern Iowa Campus. Housing, meals and a travel stipend will be provided for accepted applicants.

Learn More and Apply Here:

<http://www.surveymonkey.com/s/pwet>



Table of Contents

Executive Director Message	1 & 7
Seeking Project WET Facilitators	1
Annual Meeting Information	2
IAS Candidates Information	3-5
Upcoming Events	5
2012 Donations	6
Free Ag Energy Webinars	6
Ballot	7

125th Annual Meeting of the Iowa Academy of Science

**Join your friends and colleagues for the 125th IAS Annual Meeting
on April 19th and 20th at Simpson College in Indianola.**

General Session I, Friday, 11:00 am

Life Support on the International Space Station

Jennifer Pruitt, Environmental Control and Life Support (ECLS) Group
NASA's Marshall Space Flight Center



General Session II, Friday, 7:45 pm

Science and the Question of Cosmic Purpose

John F. Haught, PhD
Senior Research Fellow, Woodstock Theological Center Georgetown University



General Session III, Saturday, 11:00 am

Will Climate Change Decrease Agriculture's Ability to Feed the World

Jerry Hatfield, PhD
Collaborating Professor/Laboratory Director National Laboratory for Agriculture and the Environment Iowa State University

Over 150 research oral and poster presentations.

Register now at www.iacad.org

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 9 Number 1 Spring 2013
also available online at:
<http://www.iacad.org>

Managing Editor: Craig Johnson
Editor: Marcy M. Seavey

Copyright 2013. All rights reserved.
For copy permission, send a formal request to iascience@uni.edu.

Article Submission: The deadline for submission of articles for Vol. 9 #2 is June 1, 2013. Articles must be pre-approved. For more information contact Craig Johnson, IAS Executive Director, at craig.johnson@uni.edu

Advertising Rates: request advertising information from iascience@uni.edu

Hotel Reservations

Ask for Iowa Academy of Science rate

Quality Inn & Suites – Des Moines Airport

5231 Fleur Drive

Rate \$84.99 single/double plus tax

Phone: 515-287-3434

Reserve room by March 1, 2013

Hampton Inn – Des Moines Airport

5001 Fleur Drive

Phone: 515-287-7300

Rate \$109.00 single/double plus tax

Reserve room by April 1, 2013



Simpson College Campus

Candidates for IAS President –Elect

Adam Puderbaugh

Botany, Zoology, &
Environmental Science
Teacher,
Hoover High School,
Des Moines Public Schools



"The Iowa Academy of Science creates a valuable network of researchers, educators, and policy makers. I believe this network will prove valuable in navigating the muddied waters of science, society, and politics. It is my hope to be of service to this great organization by maintaining our strengths and working to realize our potential."

Professional Experience

- Des Moines Public Schools, Botany & Zoology, Chemistry, Biology, Environmental Science, and Earth Science Teacher, 2005-present
- DMACC adjunct, Environmental Science, 2011-present

Special Activities & Recognition

- CBIRC research fellow, Iowa State University 2009-2011
- GK12 Cooperating Teacher 2010-2011
- Knowledge in Action Project Cooperating Teacher, University of Washington 2012-present

IAS Member 2009-Present, Iowa Science Teaching Section Vice Chair and Section Chair (2010-2011) and ISTS Fall Conference Chair (2012) ISTS leadership team.



Nadine Weirather

Middle School Science
Teacher & Science
Research Coordinator,
Central Lee Middle
School, Donnellson

"I believe that while science in Iowa is spectacular, we always strive to enhance it. We can raise the achievement bar at all levels of science education, strengthen our publicizing of research and accomplishments, and encourage innovators to practice science in Iowa. The Academy represents leadership toward science excellence. My goal is to continue this work."

Professional Experience

- Central Lee Middle School, Science Teacher & Science Research Coordinator, 1984-present
- Iowa Wesleyan College, Elementary Science Methods Adjunct Instructor, 2005-2012
- Cardinal Stritch Jr. High, Science and Language Arts Teacher, 1983-1984

Special Activities & Recognition

- My most precious activity and recognition is the achievement of my students. They are amazing.
- Belin-Blank Teacher Honoree, 2012, 1996
- Inducted into the Hall of Fame at the State Science and Technology Fair of Iowa, 2010

IAS member since 1984 including editor of the ISTS Newsletter, 2004-present and service on the ISTS Fall Conference Planning Committee, 2002-present; AEA #16 regional director, 2002-2008; Excellence in Science Teaching Awards Selection Committee, 1996-1999, 2005-2006 (chair, 2005); Awards and Recognition Committee, 1999-2002; committee member to begin an Elementary Science Teaching Section, 1986; presenter at the ISTS Fall Conference numerous times on topics from integrating technology into the classroom to developing student science researchers.



"The IAS is a wonderful organization drawing together scientists within a relatively local environment. I feel rejuvenated from interactions with IAS colleagues, and wish to promote our organization's presence to the public as an advocate for continued intra-Iowa scientific interactions by serving on the Board of Directors."

Johanna Foster

Associate Professor of Biology, Wartburg College

Candidate for IAS Director

Johanna is an Associate Professor of Biology at Wartburg College. She teaches Biology, Ecology, Environmental Science, undergraduate research, and a field course in New Zealand. Example research projects (all presented at IAS meetings) with student collaborators include impacts of bison wallows on insects, the feasibility of migrating geese as zooplankton vectors, and the effects of estrogen on native fathead minnows. Other projects include the impacts of bison wallows on prairie plants; and mound-building ant impacts on prairie soils and plants. She became an IAS member when she moved to Iowa in 2006; and other participation examples include annual meeting site co-coordinator, Ecology Section chair, and reviewer.



"We could be better together."
As
tinu
ing
help

Candidate for IAS Director

Professional Experience

K-12 science instructor
Science Test Development
Science Ed. Consultant
B.S. Ed. Northeastern University
M.S. Ed. University of Iowa

Special Activities

National President
IAS member, serving on the
Conference Chair



"As a member of the Iowa Academy of Science, I have had many opportunities to help promote innovations and understanding of science research, science in education, and the public understanding of Science. I feel that serving on the IAS Board of Directors would open even more opportunities to be a strong voice in continuing the mission of the IAS."

Jeanie Rogis

Science Educator, Central Community Schools, DeWitt (retired)

Candidate for IAS Director

Professional Experience

- Clinton County Soil & Water Commissioner (1998-present)
- Central Community Schools, DeWitt, Jr. High & Middle School Science Teacher, 1987-2012
- Oxford Junction Consolidated Schools, Jr. High & High School Science Teacher, 1980-1987

Special Activities & Recognition

- Member of NSTA's Aerospace and Education Committee (3 year term)
- member of NSTA's Nomination Committee (3 year term)
- ISTS Treasurer – 2003-2012
- ISTS Middle School Interest Chair, Publicity, 2008 – present
- Jones County Conservation Teacher of the Year 1983
- Served as co-chair of E-Set's original writing of their Aerospace/Aviation curriculum
- Received ESTA award in Jr. High Science (1990) and ISTS Award for Exceptional Service (2010)



Candidate for IAS Director

Professional Experience

- Professor of Biology
- Professor, Iowa State University
- Director of Environmental Science
- Chair of Biology Department
- IAS Member since 2006
- Board member
- President-elect, IAS
- Associate Editor

working with the IAS and science colleagues around the country has provided me with many opportunities and has had a great influence upon my development and perspectives in science education. I have always strived to be the very best educator possible.

As a member of the board of directors I would actively continue to support and promote science understanding including science research, excellence in teacher education and working to create a responsible and science literate citizenry."

Morgan Masters

8/9 Science Instructor Ankeny CSD (Retired)

TA for DNR on-line courses, AELP Review Team Ankeny CSD

Experience

Science Instructor Chariton CSD and Ankeny CSD

Development Specialist (Data Recognition Corporation) 2003-2006

Consultant/ facilitator (STS, S, S & C and Inquiry)

Assistant Professor, Missouri State University (Gen. Science), 1969

University of Iowa. (Science Education), 1990

Awards & Recognition

National Merit Award for Science and Mathematics Teaching 1988

Served on the ISTS leadership team, ISTS Chair and Fall

Chair

"It is really quite remarkable and gratifying when you size up all the facets of the IAS. It's not just for scientists, its activities and benefits extend to all Iowans. After all, science and engineering is mostly about enriching human lives, either directly or indirectly, by improving day-to-day needs (like keeping our food and water safe and supplied, providing medical care, getting us to where we want to go safely, protecting the native biodiversity that supplies ecosystem services) or by increasing awareness and understanding of the earth and beyond, satisfying our curiosity. The IAS is and should be a leading voice in the role and place of science in the state, an umbrella organization that all scientists and engineers unite under to interact and work together. This is what I will work to achieve if elected to the Board."

Thomas Rosburg

Professor, Dept. of Biology & Drake Biodiversity Center and Herbarium, Drake University

Experience

Assistant Professor of Biology, Drake University 1996-present

Director of Lakeside Lab, 1995-present

Associate Professor of Environmental Science and Policy, Drake, 2004-2010

Assistant Professor of Biology Department, Drake, 2009-2010

Member since 1986, Fellow since 2001

2002-2005

President, and now Past-president 2010-2013

Editor of Botany, Journal of Iowa Academy of Science, 2004-present

Iowa Academy of Science

2013 Ballot

INSTRUCTIONS

Each IAS member may vote once via paper –or– online ballot. See the ballot on page 7 for instructions. The online ballot will turn off at midnight on March 29th, 2013. Paper ballots must be received at the IAS Office by the same day (we suggest postmarking them by March 26 to be sure they arrive on time). You have been assigned a temporary random 6-digit ballot number, which must accompany your vote. If two ballots are cast using the same ballot number, then the paper ballot will be used and the electronic ballot will be invalid.

If you have comments or suggestions about the new online ballot option, please contact the IAS Office.

Announcements, Events & Deadlines

Advance Registration Deadline,
IAS Annual Meeting, April 5th, 2013

125th Annual Meeting of the Iowa Academy of Science

April 19 & 20, 2013

Simpson College Campus, Indianola



ISTS Fall Conference

October 22-23, 2013

Scheman Center on the ISU Campus, Ames

ISF Grant Proposals

Proposals Due: January 31, 2014

ESTA Nominations

Due: January 31st, 2014

Distinguished Awards Nominations

Due: February 7th, 2014

Do you have know of an event that should be listed in here? Contact iascience@uni.edu and let us know!

2012 Member Donations to the Academy

\$500 or more

Harry Horner

\$200 or more

Bion Pierson

Jean Sandrock

Nick Stoyhoff

\$100 or more

Charlie Martinson

Clayton Swenson

David Dozark

Dennis Keeney

Donald Gurnett

Donald Koch

E. Robert Baumann

Gary Fulton

George Burnett

Holmes Semken, Jr

John Patterson

John Pesek

Karl Seifert

M. Tabatabai

Marcy Seavey

Peter van der Linden

Ruth Swenson

Thomas Fenton

\$50 or more

Brenda Molano-Flores

David Hodgins

Gary Donnermeyer

Gerald Miller

J. Michael Yohe

James Colbert

James Maxted

Jeanne Rogis

Joan Tucker

Johanna Foster

John Clem

John Emerson

Julie Ehresmann

Kavita Dhanwada

Neil Bernstein

Paul Bartelt

Paul Joslin

Richard Markuszewski

Richard Shibles

Terry Meyer

Thomas Gibbons

Thomas Rosburg

Tony Heiting

Traci Maxted

William Desmarais

William Forsee

William Shore

up through \$49

Allen Moen

Bruce Kaasa

Carol Schutte

Christopher O'Connell

Cindi Boyd

Daniel Deavers

Daryl Howell

DeAnna Tibben

Don Murphy

Donald Herrig

Donald Langr

Earl Hammond

Erma Selser

Gilbert Hewett

Jack Gerlovich

Jeffry T. Schabilion

John Groves

Joyce Norton

Laurence Hutzell

Lloyd Crim

Mario Affatigato

Mary Feddersen

Matt Harding

Michael Meetz

Paul Weihe

Peter Hansen

Richard McGaughy

Rick Wells

Sally Hinz

Schlicht, Dennis

Sherman Lundy

Shirley Cropper

Tami Plein

Thomas Sauer

Verlin Fleagle

William Gilbert III



*Thank you to all Academy
members who made
financial contribution to IAS
between January 1
& Decem-ber 31, 2012.*

Ag Energy Webinars

Eastern Iowa Community Colleges and Iowa State University are hosting a series of **FREE** webinars on integrating the latest research on energy into the classroom. The 60-minute webinars for high school and community college faculty will present the research, free curriculum, and a hands-on activity. The spring webinars will be held from 4:30 to 5:30 pm EDT on February 20, March 28, and April 23, 2013. Visit the link below for more details about each date's activities.

This project is funded by the United States Department of Agriculture.
More Info and Register: <http://agenergyia.org/webinars/>

from the Executive Director...

The Academy is a facilitating organization. De Anna Tibben, ISTS Chair, and the ISTS Leadership have been working with the leadership of the Iowa Council of Teachers of Mathematics (ICTM) to combine the annual conferences of both organizations into one ICTM ISTS Fall Conference this coming October at Iowa State University. This is an example of two organizations collaborating for the benefit of a larger common goal; the improvement of science and mathematics education in Iowa.

Not everything is rosy. IAS members attending the business meeting at the IAS Annual Meeting are aware of the financial challenges faced by the Academy. Unless we change course the Academy will take on a very different look during the next few years. The Board of Directors, the Finance Committee, and the Executive Director are working on cost cutting measures to end the annual drain of funds from the Academy. At a minimum the Academy, through a combination of cost cutting and increased revenue, needs to eliminate a deficit of \$55,000 per year. A plan to reach this goal is being developed by the Finance Committee for recommendation to the Board of Directors.

We live in a time of intense interest in the advancement of STEM. Soon you will be hearing more about what the Academy will be doing to reverse the drain on our finances. I want to invite you to attend the 125th Annual Meeting of the Academy in April. Invite your colleagues to attend too. We hope you will attend the business meeting to be in on the discussion about our next steps. This is a time of opportunity. It will require intentional planning to move forward and your participation is requested in making the next steps a success. Join your friends and colleagues at Simpson College as we mark the 125th Annual Meeting of the Iowa Academy of Science.

-Craig Johnson,
Executive Director



Iowa Academy of Science

2013 Ballot

Rules: One vote per individual member.

Vote online –OR– by mail.

Ballots must be arrive at the IAS Office by Friday, March 29th, 2013.

IAS President-Elect

(vote for *one*)

_____ Adam Puderbaugh

_____ Nadine Weirather

IAS Board Director

(vote for *two*)

_____ Johanna Foster

_____ Morgan Masters

_____ Jeanne Rogis

_____ Thomas Rosburg

You may vote using this ballot OR by online.

YOUR BALLOT CODE: <CODE>

Vote Online at:

<http://www.surveymonkey.com/s/ias2013>

-Or-

Mail Full Paper Ballot to:

Executive Assistant
Iowa Academy of Science
175 Baker Hall _ UNI, 2607 Campus St.
Cedar Falls, Iowa 50614-0508



Iowa Academy of Science The New Bulletin

Volume 9 Number 1 Spring 2013

Iowa Academy of Science
UNI -175 Baker Hall
2607 Campus St.
Cedar Falls, Iowa 50614-0508

Return Service Requested

Iowa Academy of Science Corporate Members

Platinum
Rockwell-Collins

Bronze
BMC Aggregates, L. C.
Clipper Windpower, Inc.

Iowa Academy of Science Institutional Members

University of Northern Iowa, Cedar Falls
Buena Vista University, Storm Lake
Central College, Pella
Coe College, Cedar Rapids
Cornell College, Mt. Vernon
Des Moines University, Osteopathic &
Podiatric Medicine
Drake University, Des Moines
Graceland University, Lamoni
Grand View University, Des Moines
Grinnell College, Grinnell
Iowa Central Community College
Iowa Conservation Education Coalition
Iowa State University, Ames
Iowa Wesleyan College, Mt Pleasant

Kirkwood Community College, Cedar
Rapids
Krell Institute, Ames
Loras College, Dubuque
Luther College, Decorah
Mount Mercy College, Cedar Rapids
North Iowa Area Community College,
Mason City
Northwestern College, Orange City
Simpson College, Indianola
The Nature Conservancy, IA
The Putnam Museum, Davenport
University of Dubuque, Dubuque
University of Iowa, Iowa City
Upper Iowa University, Fayette
Wartburg College, Waverly

