

Winter 2015

## Iowa Academy of Science: The New Bulletin, v11n1, Winter 2015

Iowa Academy of Science

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### Recommended Citation

Iowa Academy of Science, "Iowa Academy of Science: The New Bulletin, v11n1, Winter 2015" (2015). *New Bulletin*. 35.

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# Iowa Academy of Science The New Bulletin

Volume 11 Number 1 Winter 2015

March 16, 2015



*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

Dear IAS Member,

Hello from the Iowa Academy of Science. As previously announced the IAS Bulletin is becoming an electronic publication available in the Members Only section of our website. The Bulletin is moving online to save printing, paper, postage, and staff costs. We are, however, still printing and mailing the Bulletin to members who do not have a valid email address on file with the Academy. If you have an email address but did not receive the email announcement about this issue of the Bulletin please update your profile on the "Member Only" section of our website or call the IAS office at 319-273-2021. Login information is available below. The Academy uses your email address only for Academy business and to keep you apprised of Academy and other science related events. We do not provide it to third parties.

This is our annual election issue. Six Academy members have stepped forward to run for office; two for President Elect and four seeking two open positions on the Board of Directors. Please read the candidate statements and biographies in this issue or on the IAS website.

Members without a valid email address at the Academy receive their ballot by mail. The ballot includes their ballot code. They may vote by returning the original ballot by mail or vote online. Members notified of the election by email must vote online. Vote online at [www.scienceiniowa.org](http://www.scienceiniowa.org). The ballot code must be included when voting.

The 127th IAS Annual Meeting is fast approaching. We often hear from new attendees how much they enjoyed the Annual Meeting and the benefits of being with other science professionals from across the state. We hope to see you at the Iowa Memorial Union at the University of Iowa on April 17—18, 2015. Go to [www.scienceiniowa.org](http://www.scienceiniowa.org) to learn how to register online or by mail. You may also contact the Academy office at 319-273-2021 or email us at [iascience@uni.edu](mailto:iascience@uni.edu). On behalf of the IAS Board of Directors and the IAS staff we hope to see you at the University of Iowa. Thank you for supporting the Iowa Academy of Science.

Craig Johnson, Executive Director

## Member Only Website Log-in

STEP 1: Go to [www.scienceiniowa.org](http://www.scienceiniowa.org).

STEP 2: Click "Membership" on the top menu bar then click on "Member Login."

STEP 3: On the IAS Membership and Registration website click on "Members Only."

STEP 4: Log in.

If you have forgotten your password click on "Forgot Password."

Questions? Please contact the IAS Office.

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# 127th Iowa Academy of Science Annual Meeting

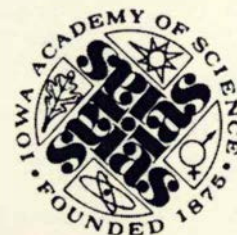
83rd Iowa Junior Academy of Science Annual Meeting

Welcome The TriBeta National Biological  
Honor Society North Central District 3

April 17—18, 2015

Iowa Memorial Union

University of Iowa, Iowa City



## General Sessions



General Session I

### Ten Seasons in Antarctica

11:00 a.m. Friday, April 17, 2015

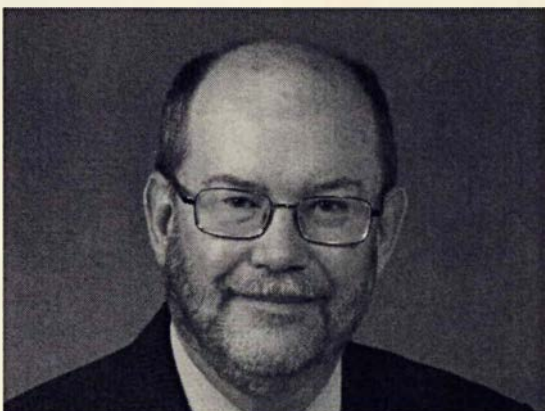
University of Iowa

Iowa Memorial Union

Main Lounge

Open to the public free of charge

Paul Jones is a retired Montezuma, Iowa biology, chemistry, and physics teacher who has served in Antarctica with Raytheon Polar Services.



General Session II

### The Internet: Past, Present, and Future

7:45 p.m. Friday, April 17, 2015

University of Iowa

Iowa Memorial Union

Main Lounge

Open to the public free of charge

Daniel Reed is Vice President for Research and Economic Development at the University of Iowa.

**Advance Registration Deadline: April 8, 2015**

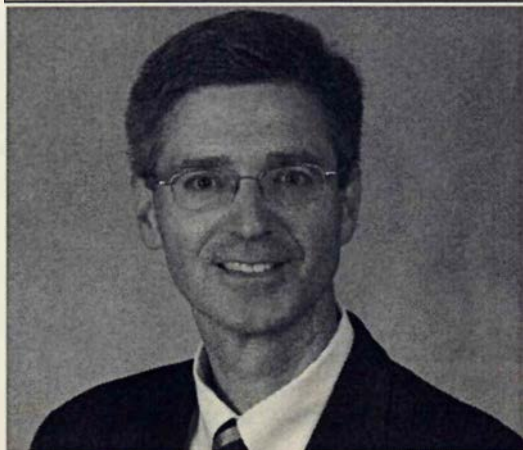
Register Online or by Mail

Session Information, Meals, Schedules, Hotels, Directions Available Online

Check Often for Updates

[www.scienceiniowa.org](http://www.scienceiniowa.org)

## General Sessions Continued



General Session III  
**Wind Energy: Past Present and Future**  
11:00 a.m. Saturday, April 18, 2015  
University of Iowa  
Iowa Memorial Union  
Main Lounge  
Open to the public free of charge

P. Barry Butler is the Executive Vice President and Provost at The University of Iowa.

## Symposiums

### **Symposium A: Floods in Iowa**

2:30—4:30 p.m., Friday, April 17th

### **Symposium B: The Past in Our Backyards: An Introduction to Iowa City Archeology**

2:30—4:30 p.m., Friday, April 17th

### **Symposium C: Modeling Human Disease in Research Friendly Organisms**

2:30—4:30 p.m., Friday, April 17th

## Research Presentations

### **158 Poster and Oral Research Presentations**

**Posters are presented on Friday and oral presentations on Saturday.**

## Volunteering at the IAS Annual Meeting

Each year many IAS Members volunteer at the IAS Annual Meeting. One of the most important tasks is judging for the Iowa Junior Academy of Science Annual competition. We need faculty, graduate and undergraduate students to judge poster and oral presentations by middle and high school students. We need veteran as well as first time judges. This is a rewarding experience for the students and the judges. If you are interested you may call the IAS office for more information or look online and conveniently sign up on the IAS homepage at [www.scienceiniowa.org](http://www.scienceiniowa.org).

Judges are also needed for the TriBeta National Biological Honor Society North Central District 3 Convention which is also being held at the IAS Annual meeting. There will be judging of poster and oral presentations. If you are interested you may link to more information and sign up at [www.scienceiniowa.org](http://www.scienceiniowa.org).

Thank you for supporting science and science education in Iowa.

## Candidates for IAS President –Elect



"As Iowa's oldest existing scientific association, IAS has established itself as a state leader in the promotion of science research and education. If elected to serve IAS as President Elect, I would hope to expand opportunities for educational programs

that encourage student training and research in all fields of science."

### **Melinda Coogan**

Associate Professor of Biology  
Buena Vista University

### **Professional Experience**

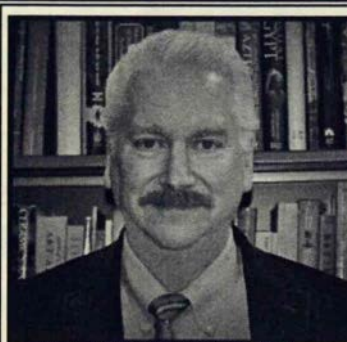
Faculty Member, School of Science, Buena Vista University, 2007 – present  
Ph.D., Environmental Science, University of North Texas, 2007  
M.S., Biology, Western Illinois University, 2004

### **Special Activities & Recognition**

Member and current Chair, Buena Vista County Conservation Board, IA, 2013 – present  
Affiliated Faculty and Researcher, UNT Sub-Antarctic Biocultural Conservation Program, Puerto Williams, Chile, 2012 – present  
Chair, Storm Lake, IA, Storm Water Advisory Committee, 2009 – present  
24th Annual George Wythe Laureate, Buena Vista University, 2010  
Board Member, Raccoon River (IA) Watershed Association, 2007 – present

### **IAS Membership**

IAS member, 2008 – present  
Environmental Science and Health Section Chair and Co-Chair, 2009 – 2014  
Societal Issues Chair, 2013 – present



"I am honored to be a candidate for President-elect of the Iowa Academy of Science. I welcome the opportunity to apply my leadership experience on governing boards and commissions to address matters of concern of the

membership, expand IAS membership, and keep the organization moving forward productively."

### **Joseph Tiffany**

Research Associate, The Office of the State Archeologist  
The University of Iowa

### **Professional Experience**

I am a North American archaeologist and retired university professor with 45 years of experience in Midwest and Plains prehistory.

My professional experience includes membership and chairing of several public and professional boards and commissions, and editor of two professional journals. My 150 plus publications include monographs, articles, book chapters, reports, book reviews and obituaries; and 60 professional presentations: including invited papers, chairing sessions, and other contributions.

### **Special Activities & Recognition**

2013 Distinguished Service Award, Plains Anthropological Society  
  
2013 James P. Gallagher Award for outstanding service and leadership, Mississippi Valley Archaeology Center, University of Wisconsin, La Crosse  
  
2003 Keyes-Orr Distinguished Service Award, Iowa Archeological Society.

### **IAS Membership**

IAS Member 1977, Fellow 1984  
Emeritus 2014

In 2014, I received the Distinguished Fellow Award from the Iowa Academy of Science. I have presented papers and, chaired sessions, and have been an invited speaker at IAS annual meetings.

## Candidates for IAS Board of Directors (continued on next page)



"The IAS is the quintessential science organization in Iowa, as well as a prominent scientific organization within the US. If elected, I will do my utmost to support the vision, mission, and goals of the academy and to work for greater public presence in all matters scientific that concern Iowans."

### Mark Anderson

Research Archeologist, University of Iowa Office of the State Archeologist

#### Professional Experience

Professional archaeologist for nearly 30 years working in the Lake Superior basin, Northern Great Plains, and Upper Midwest. I specialize in Cultural Resource Management archaeology, lithic research, GIS/GPS, remote sensing methods, and ancient technology research. I have conducted several hundred research projects across the state, coordinating with landowners and supervising crews during research completion. I have participated in education outreach presenting numerous public presentations and interacting with dozen of individuals every year, and working with the public at large in interpreting and understanding Iowa's rich cultural heritage.

#### Special Activities & Recognition

- Research Specialist for the Research Division of the Office of the State Archaeologist at the University of Iowa for the past 27 years.
- Currently President of the Iowa Society of the Archaeological Institute of America; Past-President of the Association of Iowa Archaeologists, and serve on the Big Sand Mound Preservation Board in Muscatine County co-sponsored by MidAmerican and Monsanto.
- Excavation and research experience in Oregon, South Dakota, Indiana, Ohio, Michigan, Minnesota, and Ontario.

#### IAS Membership

Member since 1991; served as Anthropology Section chair and vice-chair for multiple years; member of the Student Programs Committee (2008-2010); organized joint Anthropology/Science Teachers Section 2000 symposium on Teaching and Evolution; organized General Session III program "The Peopling of the Americas - A Discussion" for the 126th annual meeting in 2014; organized Symposium B "The Past in Our Backyards: An Introduction to Iowa City Archaeology" to be presented at the 127th annual meeting in 2015.



"Being an active member of the IAS has allowed me to develop as a mentor for students interested in science and provided me with an important network of peers. Serving on the Board of Directors will allow me to give back to the Academy and help to strengthen its commitment to scientific research, education, and public understanding."

### Andrew Brittingham

Professor of Microbiology and Immunology  
Des Moines University

#### Professional Experience

- Professor: 2011 - present, Des Moines University
- Associate Professor: 2005-2011, Des Moines University
- Assistant Professor: 2000-2005, Des Moines University
- University of Iowa, Department of Internal Medicine  
Postdoctoral Fellow: 1997-2000
- PhD: Temple University, School of Medicine (1997)
- BS: Philadelphia College of Pharmacy and Science (1988)

#### Special Activities & Recognition

- Des Moines University, Outstanding University Researcher Award (2005)
- Dean's Award for Outstanding Community Service (2009)

#### IAS Membership

- Member 2001 - present
- Fellow, Iowa Academy of Science (2011)
- Iowa Science Foundation Committee (Chair) 2006 - 2008
- Annual Meeting Planning Committee 2009
- Board of Directors 2009 - 2012
- Finance Committee 2012 - present

## Candidates for IAS Board of Directors (continued from previous page)



I am thrilled to be in Iowa, and to become part of an organization dedicated to the advancement of science at all levels! I believe my background in teaching and research will suit me

well in ensuring that IAS continues to serve its stakeholders, as well as explore new areas that IAS can make science better for all Iowans. Thank you for the opportunity to contribute.

### Michael LaGier

Assistant Professor of Biology  
Grand View University

#### Professional Experience

Greetings. I am currently a microbiology professor at Grand View University. I consider myself both a teacher and a scholar. My current research uses genomics to examine the relationship between bacterial genome content and lifestyle. I have participated in funded, basic and applied research, at the University of North Carolina at Chapel Hill and at the Centers for Disease Control and Prevention (CDC). In addition, I have received formal training in pedagogy as an NIH-funded SPIRE fellow.

#### Special Activities & Recognition

I have experienced science in a variety of settings, and thus my experiences have been broad in seeing how science works at institutions with different strategic goals and responsibilities. For example, I have had opportunities to conduct research at research universities (University of North Carolina at Chapel Hill), undergraduate-serving institutions (Grand View University), and government agencies (CDC).

#### IAS Membership

Although I am new to Iowa, and IAS; I am excited about the possibility to serve an institution dedicated to the importance of science at all levels. I have acted as a reviewer for the Science Foundation Grant Program, and continue to look for ways to contribute to IAS.



From primary schools to collegiate and graduate education, the Iowa Academy of Science plays a valuable and unique role in developing young scientists, supporting educators, and building a network across our state. If given the opportunity to serve on the Board of Directors, I will work towards broadening participation in

the teaching, learning, and research in the sciences.

### Elizabeth (Betsy) Stone

Assistant Professor  
University of Iowa

#### Professional Experience

I joined the faculty of the Department of Chemistry at the University of Iowa in 2010 as an Assistant Professor. I conduct research in atmospheric chemistry and teach courses in analytical chemistry at graduate and undergraduate levels.

Prior to this, I was a Senior Scientist in the departments of Organic Chemistry and Environmental Chemistry at the Carlsbad Environmental Monitoring and Research Center at New Mexico State University (2009-2010). I earned my doctoral degree in Environmental Chemistry and Technology from the University of Wisconsin-Madison (2009) and my bachelor's degree in Chemistry and French from Grinnell College (2005).

#### Special Activities & Recognition

University of Iowa Early Career Scholar of the Year (2015)

Environmental Science: Processes & Impacts Emerging Investigator (2014)

Transform, Interact, Learn, Engage (TILE) Institute Faculty Fellow (2011)

#### IAS Membership

Member since 2012

## Donations

Thank you to the following people who have donated to the Academy in 2014.

### \$5000

Donald and Marie Gurnett

### \$500 plus

Harry Horner

### \$200 plus

David Dozark  
Charlie Martinson  
Nick Stoyhoff

### \$100 plus

Andrew Brittingham  
George Burnett  
Lyn Countryman  
H. Friedrich  
Gilbert Hewett  
Sally Hinz  
Donald Koch  
Gerald Krockover  
Traci Maxted  
John Pesek  
Jean Prior Sandrock  
Carol Schutte  
Karl Seifert  
Holmes Semken  
Gale Vermeulen

### \$50 plus

John Bonte  
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David Hodgin  
Donald Huffman  
Lawrence Jensen  
Cherin Lee  
Richard Markuszewski  
Michael Meetz  
John Patterson

## Donations Continued

Jeanne Rogis  
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Ruth Swenson  
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Robert Yager

J. Yohe

Thomas Zimmerman

### Up to \$49

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Verlin Fleagle  
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Bruce Kaasa  
Dennis Keeney  
Sherman Lundy  
Terry Meyer  
Don Murphy  
Diane Robertson  
Dennis Schlicht  
Loren Stephens  
Ed Trullinger  
Anita Vasto



# Iowa Academy of Science The New Bulletin

Volume 111 Number 1 Winter 2015

**Iowa Academy of Science**  
BRC 50  
University of Northern Iowa  
Cedar Falls, Iowa 50614-0508

*Return Service Requested*

## **Iowa Academy of Science Corporate Members**

### **Platinum**

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Kemin

To learn more about our Corporate Members visit the IAS website at [www.scienceiniowa.org](http://www.scienceiniowa.org) and click on 'Partners' on the top menu bar.

## **Iowa Academy of Science Institutional Members**

University of Northern Iowa, Cedar Falls

Buena Vista University, Storm Lake

Central College, Pella

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Cornell College, Mt. Vernon

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Graceland University, Lamoni

Grand View University, Des Moines

Grinnell College, Grinnell

Iowa Central Community College

Iowa Conservation Education Coalition

Iowa State University, Ames

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Kirkwood Community College, Cedar Rapids

Krell Institute, Ames

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North Iowa Area Community College, Mason City

Northwestern College, Orange City

Simpson College, Indianola

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University of Iowa, Iowa City

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