

Summer 2015

Iowa Academy of Science: The New Bulletin, v11n2, Summer 2015

Iowa Academy of Science

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Iowa Academy of Science The New Bulletin

Volume 11 Number 2 Summer 2015

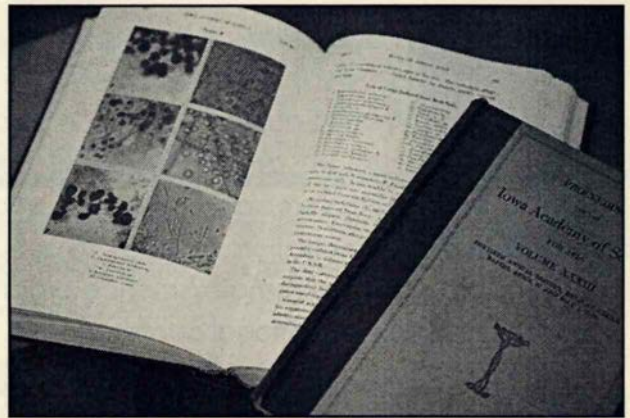
August 29, 2015



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.

The New Online Journal of the Iowa Academy of Science

Since 1887 the Journal of the Iowa Academy of Science (JIAS) has been a print publication. That will change when the Academy publishes the inaugural issue of the Online IAS Journal. Along with the change comes a new commitment to authors: manuscripts submitted for peer review and accepted for publication are expected to be published within four months of the submission date. As part of our commitment we have added editors and reviewers and are seeking more.



The online format offers several advantages over print. Articles will be added to issues as they are ready for publication—no waiting. Articles may be searched through your favorite search engine. References to IAS Journal articles in other journals will link directly to the IAS Journal and references in the IAS Journal will link directly to those articles.

You may view the homepage of the IAS Journal at: <http://iowaacademyjournal.org/>. The Journal webpage is complete but access is not yet available. When the site is opened you will receive an email from our publisher, Allen Press, with instructions on how to access the Journal.

Continued on Page 3...

Welcome

Welcome to the new academic year and your summer issue of the IAS Bulletin. Many Academy related activities are underway. Some of them are included in this issue, all are on the IAS website, and others will be revealed in the upcoming fall issue of the Bulletin. Please look through this issue of the Bulletin and visit www.scienceiniowa.org to learn more.

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ICTM— ISTS Math Science Conference 2015

September 20—21, 2015

Valley High School

3650 Woodland Avenue

West Des Moines, Iowa

Formative Assessment in the Math and Science Classroom



Page Keeley is the Senior Science Program Director at the Maine Mathematics and Science Alliance, where she directs projects in the areas of leadership, standards-based curriculum and instruction, formative assessment, professional development design, and instructional coaching. She has authored nine books and several chapters and journal articles and provides professional development and consultation services to school districts, math-science partnership (MSP) projects, university programs, and math/science organizations throughout the United States and is a frequent keynote presenter at national conferences.



Cheryl Tobey is an expert on diagnostic and formative assessment practices and the development of materials and professional development for math educators. Tobey is a Mathematics Specialist for two projects funded by the National Science Foundation (NSF)—*Formative Assessment in the Mathematics Classroom: Engaging Teachers and Students (FACETS)* and *Differentiated Professional Development: Building Mathematics Knowledge for Teaching Struggling Students (DPD)*—as well as the *Eliciting Mathematical Misconceptions (EM2)* study funded by the Institute of Education Sciences (IES) and Developing and Supporting Assessment Practices (DSAP) funded by Maine's State Department of Education.

Conference Strands

Building a Strong Knowledge Base in Math and Science

Assessment in Math and Science

Connections in Math and Science

Technology Integration in Math and Science

Discussions in Math and Science

Learn More and Register Online or by Mail

Attendee registration fees increase after September 14th

Conference and session information and schedule available at:

www.ictm-ists-conference.info/

Science attendees and exhibitors register at:

www.scienceiniowa.org

ISTS Pre-Conference Event and PAEMST Recognition

Join Iowa teachers for the ISTS Pre-Conference Event and Presidential Awards for Excellence in Mathematics and Science Teaching (PAEMST) Recognition.

6:00—9:00 p.m.

Sunday, September 20, 2015

Science Center of Iowa

401 Martin Luther King Jr Pwky

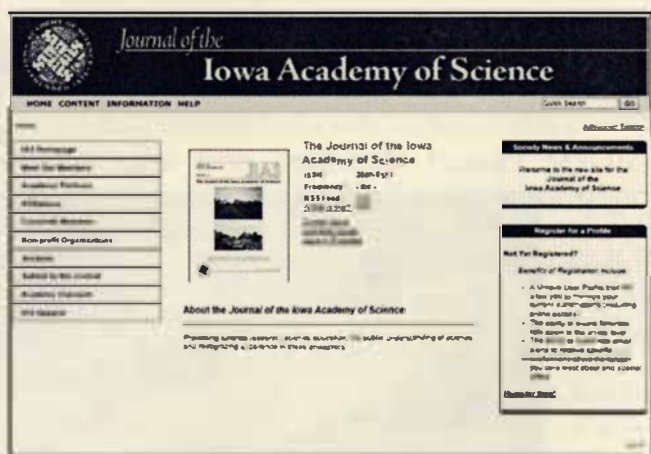
Des Moines, Iowa

The Science Center of Iowa is opening their doors for ISTS. Join us for an evening of heavy hors d'oeuvres, learning, and honoring Iowa's science Presidential Award nominees.

Register at scienceiniowa.org. The cost is only \$10.

IAS Journal is Online

...Continued from Page 1



The new Journal of the Iowa Academy of Science website is online at: iowaacademyjournal.org/

Allen Press has printed the IAS Journal for many years. The company produces more than 400 titles and approximately 80% of the publications they print are scholarly journals. Nearly 100% of the titles they typeset are scholarly in nature. We believe our association with Allen Press will assure the science community of Iowa the IAS

Journal is an ideal option for faculty, graduate, and undergraduate students to publish peer-reviewed articles.

The Academy is also encouraging submission of general interest articles, reviews or annotated bibliographies, and documented informed commentaries. Science teaching articles about laboratory techniques, experiments, or other classroom activities are invited. Invited Iowa Junior Academy of Science research papers will also be accepted. Contact the Iowa Academy of Science office for more information.

All IAS Members receive the Journal as part of membership. Subscriptions are available for non-members at a cost of \$22 per year. Individual articles may be purchased on the website for \$15 each.

Learn more about the Journal of the Iowa Academy of Science at: www.scienceiniowa.org/iasjournal. You may apply to serve as a reviewer by filling out the application form on the website. Consider submitting a manuscript to the Journal of the Iowa Academy of Science today!

Iowa Academy of Science Education Programs

20 THE GLOBE PROGRAM

20th Anniversary • 1995 – 2015

By Eve Halligan, IAS Program Coordinator

Using GLOBE to make an IMPACT in Iowa Classrooms

June 17-18, 2015, fourteen middle school/high school teachers and school administrators from across Iowa attended a two-day "Experiences in Inquiry" professional development workshop at the University of Northern Iowa (UNI). As a part of the UNI IMPacting Achievement with Collaborations and Technology (IMPACT) Program, participants receive training in the GLOBE Program with select GLOBE atmosphere protocols and gain experience with inquiry-based approach into their teaching.



Participants of the June 17-18, 2015 "Experiences in Inquiry" workshop at the UNI.

"Experiences in Inquiry" integrates GLOBE, the STORM Project activities, and educational technology concepts. Participants also have a chance to network and collaborate with fellow educators from across the state. Several of this year's participants will continue on with additional new IMPACT participants for a year-long professional development program expanding upon and deepening their experiences with inquiry-based education, collaborations with fellow educators, and experiences with the GLOBE and STORM programs.



Attention Educators

Are you interested in professional development in the GLOBE Program and/or Project WET? Would you like an IAS educator to bring NASA lunar samples and science activities to your classroom? Please contact Eve Halligan, IAS Education Program Coordinator, at eve.halligan@uni.edu for more information or to schedule a visit/training.

Eve Halligan, IAS Program Coordinator

Iowa Academy of Science Education Programs

IAS Brings the Moon to Iowa Students... Literally!

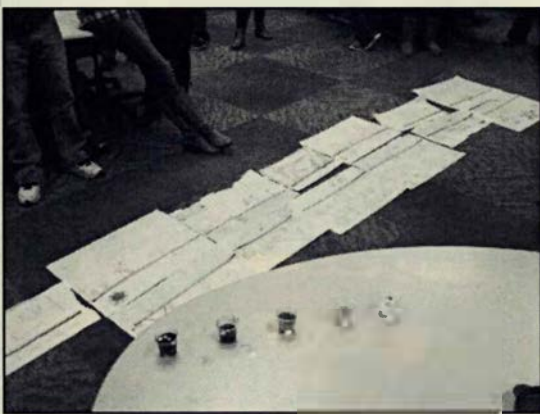
During April, we had the pleasure of visiting students at Aplington-Parkersburg Middle School, elementary students at West Elementary in Independence, and the Planets class students at the University of Northern Iowa. During our visits, Eve Halligan shared information about the IAS, conducted a few hands-on space science activities, and most excitingly, shared a NASA Lunar Sample Disk with students.

The NASA Lunar Sample Disk is an approximately 6-inch Lucite plastic disk containing 6 lunar rock samples returned to the Earth from the Moon by Apollo Mission astronauts. It was a wonderful opportunity to share lunar science and build enthusiasm for space science in Iowa. Students were given the opportunity to view the lunar sample disk under a digital microscope and even "hold the Moon" in their own hands! We were happy to share this unique and rare resource with students and look forward to the opportunity for more classroom visits in the future. The Iowa Academy of Science would like to thank the 1st National Bank of Cedar Falls for providing secure storage of the NASA Lunar Sample Disk.



**Ms. Amanda Whittaker,
5th Grade Teacher, West
Elementary,
Independence, Iowa,
excitedly holding the
"Moon" in her hands!**

Iowa Preservice Teachers Take a Dip into Water



With generous support from a REAP-CEP grant, pre-service teachers across Iowa are once again able to receive valuable training and educational materials and resources from Project WET in 2015. This spring, four day-long pre-service workshops were held at Luther College, the University of Northern Iowa, and Dordt College. During the workshops, participants experience activities focusing on understanding the water cycle, the physical and chemical properties of water, water as a natural resource and natural resource management. Project WET training provides a model for integration of Environmental Education into science, social studies and other subjects. Eight to ten additional Project WET Pre-service trainings are

to be held in the fall 2015. Participants receive the *Project WET Curriculum and Activity Guide* as well as a selection of Project WET Activity Booklets to use in their future classrooms.

Contact eve.halligan@uni.edu for additional information and to schedule a workshop for the pre-service course.

National Congress on Science Education

By Nadine Weirather, IAS Past President



At the urging of Eric Hall, IAS Membership Committee chair, Kelen Panec and Nadine Weirather represented the Iowa Academy of Science at the 2015 National Congress on Science Education (NCSE) in Omaha. Our Academy is considered a CAG

(chapter or affiliated group) of the National Science Teachers Association (NSTA). The purposes of NCSE are to focus on the needs of CAGs, and build healthy organizations and science leaders.

Kelen and Nadine met the leaders of NSTA, including the Iowa Academy of Science's regional director, Natacia Campbell. These NSTA leaders provided several ways they can support CAGs with no cost to the CAG. The networking at NCSE also provided ideas for how we can help ourselves increase membership. All of these ideas/supports will add value to our membership.

As a voting delegate to the Congress, IAS also had an impact on resolutions that were passed. Three of them directly impact CAGs:

Be it resolved that CAGs are encouraged to post on websites and submit to NSTA during the Chapter & Associated Group Data collection period, organizational documents such as bylaws, standard operating procedures, membership brochures, newsletters, etc.

Be it resolved that each state chapter is encouraged to develop a relationship with preservice teacher programs.

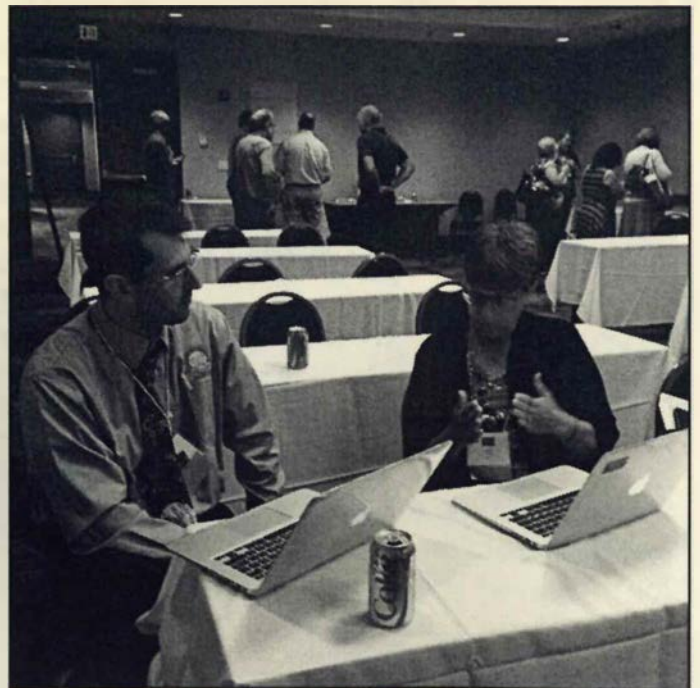
Be it resolved that the 2015 Congress on Science Education encourages Chapters and Associated Groups (CAGs) and NSTA to

collaborate in using the NSTA Learning Center in blended learning opportunities for professional development at the state and local level.

Kelen was asked to present a share-a-thon session about the joint ICTM-IAS Fall Conference. Attendees to this session were interested in both how our conference is run and in how a joint conference could work.

The first thing we can all do to help increase membership is to talk about the Academy and its relationship to science in Iowa. Personal connections are the best way to get people involved. A full report from the Congress was given to Eric and to the IAS Board of Directors.

While NSTA is focused on K-12 teachers, many of the suggestions to enhance our organization will work for the whole Academy and not only ISTS. While change can be a slow process overall, hopefully you will see some changes and added benefits to your membership soon.



Kelen Panec met with Tim Dalby, Lower School Science Specialist, Wilmington Friends School, Wilmington, Delaware.

128th Iowa Academy of Science Annual Meeting



April 22—23, 2016
Grand View University
1200 Grandview Avenue
Des Moines, Iowa

NASA's New Horizons Mission at the IAS Annual Meeting



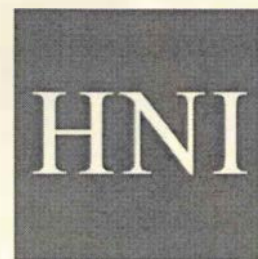
Dr. Oliver White, Planetary Scientist from the NASA Ames Research Center, will discuss the scientific return from the flyby of the Pluto-Charon system during a General Session at the IAS Annual Meeting. He is on the New Horizon's geology and geophysics team that recently conducted the flyby. The team expects considerable new information to be available by April. Dr. White's past work includes creation of topographic maps and the study of landform evolution involving the moons of Jupiter and Saturn. Learn more about the Annual Meeting on the IAS website.

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To learn more about our Corporate Members visit the IAS website at www.scienceiniowa.org and click on 'Partners' on the top menu bar.

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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

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The Putnam Museum, Davenport

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University of Iowa, Iowa City

Upper Iowa University, Fayette

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