

# Iowa Biotech Educator

Iowa State University Office of Biotechnology  
Volume 23 • Number 3 • Fall 2015



## Free biotechnology resources for Iowa's educators – 22 years and counting

This school year marks the 22nd consecutive year that Iowa State University's Office of Biotechnology is offering Iowa teachers and ISU Extension educators free equipment, supplies, and instructional materials for biotechnology lab activities.

To date, the Office has trained more than 2,800 educators at biotechnology education training courses and has provided free materials and supplies to Iowa's K-14 and extension educators for more than 280,000 Iowa students. These activities help students explore the science, benefits, risks, and ethical issues of biotechnology products.

Free laboratory supplies and/or instructional materials for 27 biotechnology laboratory protocols and three biorenewable fuels modules are available to Iowa educators for the 2015-2016 school year. Teachers receive the supplies by parcel service or mail, postage paid. Instructional materials can be downloaded free from [www.biotech.iastate.edu/laboratory-protocols/](http://www.biotech.iastate.edu/laboratory-protocols/).

To order supplies and equipment or for more information, please contact Lori Miller, Office of Biotechnology, 1210 Molecular Biology Building, Iowa State University, Ames, IA 50011-3260, phone toll-free in Iowa 800 643-9504, or e-mail [lorimill@iastate.edu](mailto:lorimill@iastate.edu).

### Free lab supplies

- Bt corn vs. the European corn borer
- Chymosin demonstration
- DNA extraction – bacteria
- DNA fingerprinting
- DNA transformation of bacteria
  - ampicillin resistant
  - green fluorescent protein (GFP)
  - recombinant DNA: dual antibiotic-resistance genes
  - red colony
- Evolution of antibiotic resistant bacteria
- Marker assisted selection of the K-casein allele
- Micropropagation of plants
- Plasmid isolation and analysis
  - red colony
- QuickStix™ strip tests
  - corn leaf tissue
  - corn seed
  - Roundup Ready® soybeans
- Soybean flavor demonstration
- Soy drink
- Using invertase to detect sucrose in soybeans
- Using thin-layer chromatography to detect sucrose in soybeans

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Next spring, the printed and mailed version of this newsletter will have phased entirely to PDF issues sent by e-mail. ALL issues will be sent electronically. To continue your free subscription, please send your e-mail address to [lorimill@iastate.edu](mailto:lorimill@iastate.edu) by March 1. All issues will continue to be posted on the website at [www.biotech.iastate.edu](http://www.biotech.iastate.edu).

March  
1  
2016

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### Connect to Biotech



[www.biotech.iastate.edu](http://www.biotech.iastate.edu)  
Office of Biotechnology  
1210 Molecular Biology Bldg.  
Iowa State University  
Ames, Iowa 50011-3260  
ph. 515 294-9818  
800 643-9504 toll-free in Iowa  
[biotech@iastate.edu](mailto:biotech@iastate.edu)

Mike Zeller – Biotechnology  
Outreach Education Coordinator  
[mzeller@iastate.edu](mailto:mzeller@iastate.edu)

Lori Miller – Program Secretary  
[lorimill@iastate.edu](mailto:lorimill@iastate.edu)

**IOWA STATE UNIVERSITY**  
**Office of Biotechnology**

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# Iowa Biotech Resources

## Electrophoresis equipment free to use

Teachers may check out electrophoresis equipment for DNA fingerprinting by contacting their Area Education Agency (AEA) listed below.

If an AEA electrophoresis kit is unavailable, Iowa teachers can contact the Office of Biotechnology's Mike Zeller, [mzeller@iastate.edu](mailto:mzeller@iastate.edu), or Lori Miller, [lorimill@iastate.edu](mailto:lorimill@iastate.edu).

### Keystone AEA

Contact: Jason Martin-Hiner, 1400 2nd Street NW, Elkader, IA 52043, phone 563 245-1480. Web [www.aea1.k12.ia.us](http://www.aea1.k12.ia.us)

### AEA 267

Kits are housed at Science Education Resource Center, Room 160, McCollum Science Hall, University of Northern Iowa, Cedar Falls, IA 50614-0296, phone 319 273-6912, e-mail [SERC@uni.edu](mailto:SERC@uni.edu). Web [www.science-ed.uni.edu/sci-ed-resource-center](http://www.science-ed.uni.edu/sci-ed-resource-center) or [www.aea267.k12.ia.us](http://www.aea267.k12.ia.us)

### Prairie Lakes AEA

Contact: Lori Miller, Office of Biotechnology, 1210 Molecular Biology Building, Iowa State University, Ames, IA 50011-3260, phone 800 643-9504 (in Iowa), e-mail [lorimill@iastate.edu](mailto:lorimill@iastate.edu). Web [www.biotech.iastate.edu](http://www.biotech.iastate.edu)

### Mississippi Bend AEA

Contact: Cheryl Porter, 729 21st Street, Bettendorf, IA 52722, phone 563 344-6463 or 800 947-2329, e-mail [cporter@mbaea.org](mailto:cporter@mbaea.org). Booking #8039. Web [www.aea9.k12.ia.us](http://www.aea9.k12.ia.us)

### Grant Wood AEA

Contact: Mary Zobeck, Van Allen Science Teaching Center, Materials Support, 1120 33rd Avenue SW, Cedar Rapids, IA 52404, phone 319 399-6432 or 800 798-9771. Web [www.aea10.k12.ia.us/vastscience/materialsupport.html](http://www.aea10.k12.ia.us/vastscience/materialsupport.html)

### Heartland AEA

Contact: Lori Miller, Office of Biotechnology, 1210 Molecular Biology Building, Iowa State University, Ames, IA 50011-3260, phone 800 643-9504 (in Iowa), e-mail [lorimill@iastate.edu](mailto:lorimill@iastate.edu). Web [www.biotech.iastate.edu](http://www.biotech.iastate.edu)

### Green Hills AEA

Contact: Media Scheduling, 24997 Highway 92, Box 1109, Council Bluffs, IA 51502-1109, phone 712 366-0203 or 800 342-7192. Web [www.ghaea.org](http://www.ghaea.org), go to the online catalog Medianet

Contact: Mindy Skarda, Southwestern Community College, phone 641 782-1480, e-mail [mskarda@swccia.edu](mailto:mskarda@swccia.edu). AEA address: 257 Swan Street, Creston, IA 50801-1199

### Great Prairie AEA

Contact: Tami Plein, Burlington Office, 3601 West Avenue Road, Burlington, IA 52601, phone 319 753-6561, x1162. Web [www.gpaea.k12.ia.us](http://www.gpaea.k12.ia.us)

### Northwest AEA

Contact: Kim Noteboom, Sioux Center Office, 1382 4th Avenue NE, Sioux Center, IA 51250, phone 712 722-7817. Web [www.nwaea.k12.ia.us](http://www.nwaea.k12.ia.us)

## Instructional materials



Free instructional materials for the following activities can be downloaded at [www.biotech.iastate.edu/laboratory-protocols](http://www.biotech.iastate.edu/laboratory-protocols) or at the links noted below. The Office of Biotechnology does not offer perishable materials and equipment for these protocols.

- Bioethics case studies ([www.biotech.iastate.edu/bioethics-case-studies](http://www.biotech.iastate.edu/bioethics-case-studies))
- Biorenewable fuels modules ([www.biotech.iastate.edu/biorenewables-curriculum-modules](http://www.biotech.iastate.edu/biorenewables-curriculum-modules))
  - biodiesel/transesterification of oil
  - corn kernel dissection
  - fermentation/ethanol
- DNA extraction
  - kiwi
  - onion
  - fruit cup
  - DNA in My Food? – The Making of a Smoothie
- Pipettor practice – submitted by Jen Koenen, Hampton-Dumont High School
- Polymerase chain reaction (PCR)
  - activity
  - simulation in PowerPoint®
  - simulation in QuickTime® movie

PowerPoint® is a registered trademark of Microsoft Corporation. QuickTime® is a registered trademark of Apple Inc.



PHOTO: MIKE ZELLER

Educators get hands-on lab experience at the summer training workshops.

# Iowa Biotech Expertise

## Experts at Iowa State help educators

Iowa educators with questions about how to do biotechnology activities are invited to call 800 643-9504 toll-free in Iowa or send e-mail to the addresses given below.

### Mike Zeller – [mzeller@iastate.edu](mailto:mzeller@iastate.edu)

As Iowa State's biotechnology outreach education coordinator, Mike Zeller works with educators, schools, industry, and the public to promote biotechnology education in Iowa.

He is a nationally known science educator with expertise in curriculum

development, teacher training, and biotechnology resources. He regularly presents workshops at national science education conferences and meetings.

Zeller was a high school science teacher himself for almost 25 years and has conducted Iowa State's summer biotech workshops since 1997. He received a Staff Excellence Award from the Board of Regents, State of Iowa, and a Friend of Science Award from the Iowa Science Teachers Section of the Iowa Academy of Science recognizing the excellence of his work.

### Lori Miller – [lorimill@iastate.edu](mailto:lorimill@iastate.edu)

Lori Miller is the contact person for Iowa educators who want to receive free biotechnology experiment supplies for their classes. As the program secretary, she provides office and technical support for the public education program activities of the Office of Biotechnology.

Miller also handles the registration and organizational details for the training courses. She has provided outstanding friendly service to Iowa's teachers since 1994.

## Biotech master teachers share expertise

Iowa State's Biotechnology Outreach Education Center has trained a group of teachers who generously volunteer their time and teaching talents to help other educators. If you have a question, you are encouraged to contact a master teacher near you. See the list below or at [www.biotech.iastate.edu/free-assistance-from-experts](http://www.biotech.iastate.edu/free-assistance-from-experts).

### AEA 267

Julie Schafer, Marshalltown High School, 1602 South 2nd Avenue, Marshalltown, IA 50158, school phone 641 754-1130, school fax 641 754-1136, e-mail [jschafer@marshalltown.k12.ia.us](mailto:jschafer@marshalltown.k12.ia.us)

### Grant Wood AEA

Doug Herman, Biology Department, Iowa City West High School, 2910 Melrose Avenue, Iowa City, IA 52246, school phone 319 688-1050, school fax 319 339-5738, e-mail [Herman.Doug@iowacityschools.org](mailto:Herman.Doug@iowacityschools.org)

### Great Prairie AEA

Michael Goudy, Oskaloosa High School, 1816 North 3rd Street, Oskaloosa, IA 52577, school phone 641 673-3407, school fax 641 672-2440, e-mail [goudym@oskycsd.org](mailto:goudym@oskycsd.org)

Alicia Schiller, Central Lee High School, 2642 Highway 218, Donnellson, IA 52625, school phone 319 835-9510, school fax 319 835-5709, e-mail [aschiller@centrallee.org](mailto:aschiller@centrallee.org)

### Green Hills AEA

Mike Zeller, Office of Biotechnology, 1210 Molecular Biology Building, Iowa State University, Ames, IA 50011-3260, phone 800 643-9504 (in Iowa), e-mail [mzeller@iastate.edu](mailto:mzeller@iastate.edu)

### Heartland AEA

Mike Zeller, Office of Biotechnology, 1210 Molecular Biology Building, Iowa State University, Ames, IA 50011-3260, phone 800 643-9504 (in Iowa), e-mail [mzeller@iastate.edu](mailto:mzeller@iastate.edu)

### Keystone AEA

Dave Millis, Edgewood-Colesburg High School, 403 West Union, Edgewood, IA 52042, school phone 563 928-6412, school fax 563 928-6414, e-mail [dmillis@edge-cole.k12.ia.us](mailto:dmillis@edge-cole.k12.ia.us)

### Mississippi Bend AEA

Mike Zeller, Office of Biotechnology, 1210 Molecular Biology Building, Iowa State University, Ames, IA 50011-3260, phone 800 643-9504 (in Iowa), e-mail [mzeller@iastate.edu](mailto:mzeller@iastate.edu)

### Northwest AEA

Kevin Brasser, South O'Brien School, 216 South Rutledge, Box 638, Paullina, IA 51046, school phone 712 949-3454, school fax 712 949-3453, e-mail [kjbrasser@s-obrien.k12.ia.us](mailto:kjbrasser@s-obrien.k12.ia.us)

Carol Sadler, Odebolt-Arthur-Battle Creek-Ida Grove (OA-BCIG) High School, 900 South Montgomery, Ida Grove, IA 51445, school phone 712 364-3371, school fax 712 364-4463, e-mail [csadler@oabcig.org](mailto:csadler@oabcig.org)

### Prairie Lakes AEA

Mike Zeller, Office of Biotechnology, 1210 Molecular Biology Building, Iowa State University, Ames, IA 50011-3260, phone 800 643-9504 (in Iowa), e-mail [mzeller@iastate.edu](mailto:mzeller@iastate.edu)

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Glenda D. Webber  
Editor

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# Iowa Biotech Expertise

## Mike's message . . .

Welcome to the first all electronic fall edition of the *Iowa Biotech Educator*. I hope your summer was restful and has renewed your excitement for improving and strengthening STEM education in the biosciences in the state of Iowa.



By Mike Zeller  
Biotechnology  
Outreach Education  
Center Coordinator

I want to take this opportunity to remind you that the Iowa State University Biotechnology Outreach Education Center (BOEC) is here to help you meet and enhance your life science curriculum requirements and STEM initiatives. To date, over 2,800 educators have received training and over 280,000 students have been served by BOEC programs.

On the front page, you'll find a list of protocols, free materials, and contact information for support that we offer Iowa educators throughout the year. Remember, the BOEC also is available for field trips and school visits during the school year. Several of the most popular protocols have been adapted for on-site classroom delivery.

For more information about bringing your class to the BOEC or to schedule a visit to your school/classroom, contact Lori Miller, [lorimill@iastate.edu](mailto:lorimill@iastate.edu), or me, [mzeller@iastate.edu](mailto:mzeller@iastate.edu), or use our Iowa toll-free number at 800 643-9504.

### Delivery changes coming

Remember that beginning with the spring 2016 edition, all *Iowa Biotech Educator* subscribers will receive the newsletter by e-mail in electronic format. The last hard copy edition will be the winter 2016 newsletter. As always, the electronic PDF file of the

newsletter also will be posted on the Office of Biotechnology's website at [www.biotech.iastate.edu/iowa-biotech-educator-newsletter](http://www.biotech.iastate.edu/iowa-biotech-educator-newsletter). Feel free to forward/share editions of the *Educator* with colleagues you feel would benefit from its content and/or information.

To continue to receive copies of the *Iowa Biotech Educator* without interruption, please confirm your e-mail address with Lori Miller by March 1. We have collected all the most recent workshop participants' e-mail addresses. However, if you have changed schools or your e-mail address has changed, you need to inform Lori so you can continue to receive our publications.

### Biotechnology opportunities for your school

During the 2014-15 school year, the BOEC provided free supplies and equipment for more than 12,500 Iowa K-14 students. An additional 3,000 students, educators, and other adults took advantage of our on- and off-campus outreach education opportunities. So don't wait too long before placing your orders or scheduling a date for a visit to either the BOEC or your classroom. Any Iowa teacher and their students are welcome to visit the BOEC or have me visit your classrooms.

However, attendance at one or more biotechnology education workshops guarantees free supplies to those Iowa teachers. Summer workshops provide opportunities for both professional development and graduate credit, encourage interaction with other educators from across the United States on the implementation of biotechnology into existing curriculums, and are coupled with a stipend graciously funded by the Iowa Biotechnology Association. These well-established workshops will be offered again next summer. Details on the workshops will be published in the winter edition of the *Iowa Biotech Educator*.

### Summer in the BOEC

This summer, the BOEC hosted four biotechnology education workshops on campus and one for ISU Extension in Henry County. Three workshops were sponsored in part by the Office of Biotechnology public education program. In total, over 50 Iowa educators had an opportunity to experience both basic and advanced hands-on activities, discuss and develop case studies in bioethics, and gain up-to-date content they can use in their classrooms.

### Fall science education

On September 20-21, 2015, the Iowa Science Teachers Section of the Iowa Academy of Science and Iowa Council of Teachers of Mathematics will hold a joint conference at West Des Moines Valley High School and the Science Center of Iowa. The university's Office of Biotechnology and BOEC again will have an exhibitor's booth. You are welcome to drop by our booth during the conference. It is a great opportunity to visit with the BOEC staff about your endeavors to incorporate the BOEC materials into your life science curriculum and STEM initiatives. The staff can share what's new in biotechnology education from Iowa State. Visit [www.iacad.org/ists](http://www.iacad.org/ists) for registration and more information.

In December, I will travel to Kansas City to attend the National Science Teachers Association (NSTA) regional convention. I hope to learn about new and exciting life science and STEM education initiatives that I can incorporate into materials to share with Iowa teachers.

### Protocol updates

In fall 2014, the BOEC first offered a complete set of materials to do a green fluorescent protein (GFP) transformation. This protocol's preparation and instructions are almost identical to the popular ampicillin transformation, except the bacteria strain and plasmid (GFP) are different.



Since fall 2013, we have supplied PCR primers for the TPA-25 Alu sequence PCR protocol. Teachers still will need to provide their own thermocycler and purchase the other necessary reagents to complete the exercise. During this past school year, I worked with several high schools to develop a PCR protocol that can be delivered at schools, and starting this fall I can offer a visit to your classroom to present the activity. The only requirement is a block schedule of time, 75-90 minutes. For more information about the reagents used here at Iowa State or to schedule a classroom visit, contact Lori or me.

Remember, the BOEC and Office of Biotechnology are here to assist you in enhancing your STEM life science curriculum throughout this academic year. Give Lori or me a call at 800 643-9504 or e-mail us, [mzeller@iastate.edu](mailto:mzeller@iastate.edu) or [lorimill@iastate.edu](mailto:lorimill@iastate.edu), with your questions and needs. Please share this newsletter with a colleague whom you feel would benefit from our program.

I wish you a great start to the school year!

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## ISTS fall conference

The Iowa Council of Teachers of Mathematics and the Iowa Science Teachers Section (ISTS) of the Iowa Academy of Science are holding their third joint fall conference September 20-21, at Valley High School in West Des Moines and the Science Center of Iowa. The theme of this year's conference is "A Deeper Understanding – Making Connections in Math and Science."

For registration materials and more information about the fall conference, go to the ISTS website at [www.iacad.org/ists](http://www.iacad.org/ists) and click on the link to the fall conference. Please visit the Office of Biotechnology's booth at the conference to meet the staff and find out about new resources for teachers.

# Iowa Biotech Opportunities

## Hands-on life science labs at BOEC or your school

Iowa educators are invited to bring their students or adult classes to the Biotechnology Outreach Education Center (BOEC) in Ames for an hour up to a whole day of hands-on biotechnology lab activities. It may be possible for BOEC personnel to travel to your school or extension event at no charge, if your funds are limited.

### Visit the education center in Ames

The Office of Biotechnology's BOEC has two state-of-the-art laboratories with a total of 40 lab stations and a prep room. The 2,300 square-foot center is located in the Molecular Biology Building on the northwest side of campus.

During the summer, the BOEC hosts the Office of Biotechnology's biotech educator workshops where K-12 teachers, extension professionals, and other educators practice the lab preparation and experiments that they will be teaching. During the school year, educators are invited to bring their students to the BOEC on a field trip. Most field trips to the Iowa State campus use most of a day, with the BOEC as one stop on the itinerary of several Iowa State facilities.

Some BOEC activities can be done in an hour, or students can spend a whole day doing several activities. Classes exceeding 24 students can be divided into smaller groups for

multiple sessions in the BOEC and other facilities around the campus.

For BOEC field trips, transportation and meals are the only costs for Iowa schools (classes can bring brown-bag lunches or choose to eat on or off campus). Educators should reserve their field trip on the BOEC schedule two or three months in advance, especially in the spring.

### BOEC travels to schools, Extension events, and teacher workshops

Iowa teachers or extension educators can invite BOEC personnel for a morning, afternoon, evening, or whole day of biotechnology activities with their classes or extension groups. Ten or more educators in Iowa who want training in teaching biotechnology can ask the BOEC staff members to design and instruct customized group biotech workshops.

### Schedule a field trip or school visit

To arrange a field trip to the BOEC in Ames or an on-site visit to your school or extension group, please contact BOEC coordinator Mike Zeller or program secretary Lori Miller. Phone them toll-free in Iowa at 800 643-9504, or e-mail [mzeller@iastate.edu](mailto:mzeller@iastate.edu) or [lorimill@iastate.edu](mailto:lorimill@iastate.edu).

Ask Mike or Lori how to schedule visits to other facilities on campus.

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## Microbiology workshop for HS students Nov. 13

The Iowa State University Undergraduate Microbiology Club will be holding their annual workshop for high school students Friday, November 13, 2015. The workshop is a unique opportunity to give students with an interest in biotechnology and life sciences the chance to participate in hands-on laboratory techniques, tours, and activities to introduce them to the exciting world of microbiology.

Some of the experiments that day will include general staining and microscopy techniques, a look at clinical microbiology, and a murder mystery in which the students will learn about antibodies as tools, electrophoresis, and DNA. College students under the guidance of Dr. Joan Cunnick will conduct this workshop. It

*Continued on page 6*

## Microbiology workshop *continued*

will also be an excellent chance for high school students to be exposed to the university atmosphere and gain networking contacts in microbiology.

The cost is \$30/student. Registration begins October 1, 2015, and limited space is available, so prompt registration is recommended. For more information, please visit the website [www.micro.iastate.edu](http://www.micro.iastate.edu) or e-mail [microundergrad@iastate.edu](mailto:microundergrad@iastate.edu).

## Iowa Biotech Careers

### Career conferences for young women

Iowa State University's Program for Women in Science and Engineering (PWSE) has been providing K-12 outreach throughout Iowa since 1986. The outreach programs allow K-12 students to experience hands-on activities that spark an interest and awareness of careers in science, technology, engineering, and mathematics (STEM).

*Taking the Road Less Traveled* career conferences include opportunities for girls in grades 8-10 to attend career exploration workshops led by women working in STEM fields and tour Iowa State laboratories and facilities. Parents and educators can attend special sessions just for them.

For grade 8, conference dates are October 8 and 22, 2015, and March 31 and April 7, 2016. For grades 9-10, conference dates are October 29, 2015, and April 28, 2016. For registration and details, visit the PWSE website at [www.wise.iastate.edu/trlt.html](http://www.wise.iastate.edu/trlt.html). For more information, e-mail Janice Crow at [jrcrow@iastate.edu](mailto:jrcrow@iastate.edu) or phone 515 294-5883.

## Iowa Biotech Reports

### Biotech summer workshops in Ames host 40

The 2015 summer workshops offered by the Biotechnology Outreach Education Center in Ames hosted 40 educators this summer. If you could not attend, you have another chance next summer.

Watch the winter edition of the *Iowa Biotech Educator* published in January and the website at [www.biotech.iastate.edu/summer-training-courses-for-educators/](http://www.biotech.iastate.edu/summer-training-courses-for-educators/) for details in early 2016.

Educators who want to learn how to prepare and perform biotech lab protocols with their K-14 students or extension youth or adult groups should check out next summer's biotechnology outreach education workshops in Ames. Details should be available in early 2016.



PHOTOS: MIKE ZELLER



## BOEC Lab Notes



**Please recycle and monitor supplies**

### How to recycle Iowa State University lab supplies

During this school year, please recycle any free biotechnology lab supplies that you order from the Iowa State University Office of Biotechnology. The 10X TBE bottles and unused pipette tips and boxes are refilled or reused for other teachers.

To help keep costs down, please return these items to Lori Miller, Office of Biotechnology, 1210 Molecular Biology Building, Iowa State University, Ames IA 50011-3260. Please empty and rinse the 10X TBE bottles before you return them.

### We want to know if DNA fingerprinting kit supplies are missing or need to be repaired

Iowa educators who use the DNA fingerprinting kits provided by the Office of Biotechnology at Iowa State and through AEAs can help keep the contents up-to-date. The kits should have certain equipment and supplies in them at all times. Follow the link provided under the heading "Lab Equipment" at [www.biotech.iastate.edu/equipment-and-supplies/](http://www.biotech.iastate.edu/equipment-and-supplies/) to see what should be in the kit.

If you check out a kit and discover that an item is missing or broken, please contact Lori Miller at the Office of Biotechnology, phone toll-free in Iowa 800 643-9504, or e-mail [lorimill@iastate.edu](mailto:lorimill@iastate.edu).

The kits can be checked out by contacting local Area Education Agencies or the Office of Biotechnology. Any teachers who obtained the kits in the past from their regional ISU Extension and Outreach offices should contact Lori Miller to determine the current availability of the kits.

# Iowa Biotech Competitions

Four major award programs for which Iowa science educators are eligible are featured below. For other award, competition, and grant opportunities for educators or their students, visit the Office of Biotechnology's educational funding website at [www.biotech.iastate.edu/educational-awards-and-funding-sources/](http://www.biotech.iastate.edu/educational-awards-and-funding-sources/).

## IAS awards for excellent science teaching

The Iowa Academy of Science recognizes outstanding science teachers in Iowa's K-12 schools. Iowa teachers of all grade levels in all science areas are eligible to be nominated for the Excellence in Science Teaching Awards Program by administrators, colleagues, or by self-nomination.

The seven nomination categories are elementary science, earth/space science/environmental science, general/multiple science, life science, middle school/junior high science, physical science, and science supervisory.

Winners receive \$200, a plaque, and recognition at a luncheon during the Iowa Academy of Science annual meeting. If you know a teacher deserving of one of the awards, please take the time to nominate. Applications are accepted from February 1 through the following January 31. For more information, e-mail [iascience@uni.edu](mailto:iascience@uni.edu) or visit the website at [www.scienceiniowa.org/awards](http://www.scienceiniowa.org/awards). Congratulations to the 2015 winners:

**General/Multiple Science** – DeEtta Andersen, Center Point-Urbana High School, Center Point

**Life Science** – Thad Sheldon, City High School, Iowa City

**Middle/Junior High Science** – Kathryn Borton, Nevada Middle School, Nevada

**Physical Science** – Collin Reichert, Ames Middle School, Ames

**Science Supervisory** – Maureen Griffin, Hoover High School, Des Moines

## National Science Teachers Association offers awards for both members and non-members

The National Science Teachers Association (NSTA) offers many award opportunities for NSTA members, but did you know they also administer awards for non-members?

For example, NSTA membership is not required for the DuPont Pioneer Excellence in Agricultural Science Education Award, the PASCO STEM Educator Awards, the Ron Mardigian Memorial Biotechnology Explorer Award, or the Northrop Grumman Foundation Excellence in Engineering Education Award, just to name a few.

For more information, go to the NSTA awards website at [www.nsta.org/about/awards.aspx](http://www.nsta.org/about/awards.aspx). Many awards have a November 30 deadline.

## NABT honors educators

The Outstanding Biology Teacher Award program of the National Association of Biology Teachers (NABT) each year tries to recognize an outstanding biology educator (grades 7-12) in each of the 50 states; Washington, D.C.; Canada; Puerto Rico; and overseas territories.

OBTA recipients are special guests at the Honors Luncheon held at the NABT Professional Development Conference, receive gift certificates from Carolina Biological Supply Company, resources from other sponsors, and award certificates and complimentary one-year memberships from NABT.

Please take the time to nominate a deserving colleague or yourself. Nomination instructions can be found in the Awards and Opportunities section of the NABT website at [www.nabt.org](http://www.nabt.org). The deadline for 2016 nominations is March 15, 2016.

For more information, contact Iowa's OBTA Awards Directors Mike Zeller,

[mzeller@iastate.edu](mailto:mzeller@iastate.edu), or Doug Herman, [Herman.Doug@iowacityschools.org](mailto:Herman.Doug@iowacityschools.org).

## National Science Foundation administers presidential awards

The National Science Foundation soon will be accepting online nominations of teachers of grades K-6 for the Presidential Awards for Excellence in Mathematics and Science Teaching. Enacted by Congress in 1983, this award is the highest recognition that a mathematics or science teacher in the United States can receive.

The competition alternates each year between teachers of grades K-6 and teachers of grades 7-12. The award includes \$10,000, a citation signed by the President of the United States, and more. For details, e-mail [info@paemst.org](mailto:info@paemst.org) or visit the website at [www.paemst.org](http://www.paemst.org). Nominations should be done early enough to allow the nominated teacher time to thoroughly prepare an application before the deadline.

## About Iowa State's Public Education Program in Biotechnology. . .

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