

Iowa Biotech Educator

A newsletter of the Iowa State University Office of Biotechnology • Volume 20 • Number 3 • Fall 2012

Nineteenth Year of Biotechnology Resources Free to Iowa Educators

For the 19th consecutive year, Iowa State University's Office of Biotechnology is offering Iowa teachers and ISU Extension and Outreach educators free equipment, supplies, and instructional materials for biotechnology lab activities. During those 19 years, the Office has trained nearly 2,500 educators at biotechnology education training courses and has provided free materials and supplies to Iowa's K-12 and extension educators for more than 250,000 Iowa students. These activities help students explore the science, benefits, risks, and ethical issues of biotechnology products. In this issue of the Iowa Biotech Educator, you will learn about the teaching resources available to you this year from the Office of Biotechnology.

Lab Supplies and Instructional Materials

Free laboratory supplies and/or instructional materials for 27 biotechnology laboratory protocols and three biorenewable fuels modules are available to Iowa educators for the 2012-2013 school year. Teachers receive the supplies by parcel service or mail, postage paid. Instructional materials can be downloaded free from www.biotech.iastate.edu/publications/ed_resources/Laboratory_protocols.html.

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, fax 515 294-4629, or e-mail lorimill@iastate.edu.

Free lab biotechnology supplies and instructional materials are available for:

- Bt corn vs. the European corn borer
- Chymosin demonstration
- DNA extraction – bacteria
- DNA fingerprinting
- DNA transformation of bacteria
 - ampicillin resistant
 - 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

Instructional materials are available for:

- Bioethics case studies (from main menu: outreach education>bioethics case studies)
- Biorenewable fuels modules
 - corn dissection
 - ethanol
 - biodiesel
- 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

Lab Equipment

For DNA fingerprinting, teachers may check out electrophoresis equipment by contacting their Area Education Agency (AEA) listed on the next page.

(continued on p. 2)

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Connect to Biotech

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
fax 515 294-4629
biotech@iastate.edu
www.biotech.iastate.edu

Information and Free Lab Supplies for Iowa Educators
Lori Miller
Program Secretary
lorimill@iastate.edu

Expert Answers to Questions
Mike Zeller
Biotechnology Outreach
Education Coordinator
mzeller@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

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. Web www.science-ed.uni.edu/serc/high.htm or www.aea267.k12.ia.us

Prairie Lakes AEA

Kits are administered by Cindy Reher, Humboldt High School, phone 515 332-1430, e-mail creher@humboldt.k12.ia.us
AEA address: 500 NE 6th Street, PO Box 802, Pocahontas, IA 50574. Web www.aea8.k12.ia.us

Mississippi Bend AEA

Contact: Cheryl Porter, 729 21st Street, Bettendorf, IA 52722, phone 563 344-6463 or 800 947-2329, e-mail cporter@aea9.k12.ia.us. Booking #8039. Web 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

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), fax 515 294-4629, e-mail lorimill@iastate.edu. Web 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, go to the online catalog Medianet

Contact: Mindy Skarda, Southwestern Community College, phone 641 782-1480
AEA address: 1405 North Lincoln, 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

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

If an AEA electrophoresis kit is unavailable, Iowa teachers can contact the ISU Office of Biotechnology. Please contact Mike Zeller, mzeller@iastate.edu, or Lori Miller, lorimill@iastate.edu, for more information.

Remember to Recycle!



Recycling the free laboratory supplies that you order from the Office of Biotechnology helps keep costs down. For more information, see the story that begins on [p. 4](#).

Get Answers from Iowa State Experts

Is the lab protocol you learned at last summer's biotech workshop giving you strange results? Can't find the right materials for your classes? If you have questions about how to do biotechnology activities at your school, Iowa State University experts in biotechnology education can help. Educators are encouraged to contact Mike Zeller or Lori Miller by phoning them toll-free in Iowa 800 643-9504 or by sending an e-mail message to the addresses listed below.

Mike Zeller, Iowa State's biotechnology outreach education coordinator, works with teachers, schools, industry, and the public to promote biotechnology education in Iowa. Mike is a nationally known science educator with expertise in curriculum development, teacher training, and biotechnology resources. He was a high school science teacher himself for almost 25 years and has conducted ISU's summer biotech workshops since 1997. He received a Staff Excellence Award from the Board of Regents, State of Iowa, recognizing the excellence of his work at Iowa State. E-mail Mike at mzeller@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, Lori provides office and technical support for the public education program activities of the Office of Biotechnology. Lori also handles the registration and organizational details for the training courses. She has provided outstanding friendly service to Iowa's teachers since 1994. E-mail Lori at lorimill@iastate.edu.



Educators improved their skills at the summer 2012 biotechnology education workshops. Plan now to attend one or more of the workshops that will be offered next summer. Photo by Mike Zeller

Biotech Master Teachers Can Help You

Your teaching colleagues are willing to help you incorporate biotechnology units or courses into your curriculum. Iowa teachers specially trained by Iowa State's Biotechnology Outreach Education Center generously volunteer their time and teaching talents to help other educators. These biotechnology master teachers are listed below.

If you have a question, you are encouraged to contact a master teacher near you. For contact information, use the list below, visit the Office of Biotechnology homepage at www.biotech.iastate.edu/publications/ed_resources/Helpful_people.html, or contact the Office of Biotechnology toll-free at 800 643-9504.

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

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

Prairie Lakes AEA

Cindy Reher, Humboldt Senior High, 1500 Wildcat Road, Humboldt, IA 50548, school phone 515 332-3574, school fax 515 332-7150, e-mail creher@humboldt.k12.ia.us

Mississippi Bend AEA

Barb Jacobsen, Bettendorf High School, 3333 18th Street, Bettendorf, IA 52722, school phone 563 332-7001, school fax 563 332-8761, e-mail bjacobse@bettendorf.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@iccsd.k12.ia.us

Heartland AEA

Mike Zeller, Office of Biotechnology, 1210 Molecular Biology Building, Iowa State University, Ames, IA 50011-3260, phone 800 643-9504 (in Iowa), fax 515 294-4629, e-mail mzeller@iastate.edu

Green Hills AEA

David Bergman, Lewis Central High School, 3504 Harry Langdon Boulevard, Council Bluffs, IA 51503, school phone 712 366-8322, school fax 712 366-8340, e-mail dbergman@lewiscentral.k12.ia.us

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@oskaloosa.k12.ia.us

Alicia Schiller-Holland, Central Lee High School, 2642 Highway 218, Donnellson, IA 52625, school phone 319 835-9510, school fax 319 835-5709, e-mail aschiller@central-lee.k12.ia.us

Northwest AEA

Kevin Brassler, 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

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

— Educational Opportunities —

Experience Hands-On Biotechnology at the BOEC in Ames, or Invite the BOEC to Go to Your School

Again this school year, the Biotechnology Outreach Education Center (BOEC) at Iowa State University is inviting Iowa educators to bring their student or adult classes to the BOEC for an hour or an entire day of hands-on biotechnology activities. If your field trip budget cannot afford a trip to the BOEC on the Iowa State University campus in Ames, it may be possible for BOEC personnel to go to your school or extension event at no charge.

BOEC Welcomes Visitors in Ames

The Office of Biotechnology's BOEC is located in the Molecular Biology Building on the northwest side of campus. The 2,300 square-foot center has two state-of-the-art laboratories with a total of 40 lab stations and a prep room. The BOEC hosts the Office of Biotechnology's summer 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 in Ames last most of a day, with the BOEC as one stop on the itinerary of several ISU facilities. BOEC activities can take an hour, or students can spend a whole day doing several activities. Classes of 20 or more students can be divided into smaller groups for multiple sessions in the BOEC and other facilities around the Iowa State campus.

For BOEC field trips, transportation and meals are the only costs for Iowa schools (classes are welcome to bring their own brown-bag lunches). Please reserve your date two or three months in advance or earlier, especially in the spring.

BOEC Visits 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. For groups of 10 or more educators in Iowa who want training in teaching biotechnology, the BOEC staff can design and instruct customized workshops.

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For More Information

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 or lorimill@iastate.edu. If you want to include stops at other ISU facilities during your visit, ask Mike or Lori for more information about whom to contact.

Iowa Science Teachers Fall Conference October 15-16 in Ames

The annual fall conference of the Iowa Science Teachers Section (ISTS) of the Iowa Academy of Science will be held Monday and Tuesday, October 15-16, at the Scheman Continuing Education Building on the Iowa State University campus in Ames. The theme of this year's conference is "Our Students, Our Future: the social responsibility to effectively teach science."

For registration materials and more information about the fall conference, go to the ISTS website at 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.

Microbiology Workshop for High School Students

The Iowa State University Undergraduate Microbiology Club will be holding their annual workshop for high school students Friday, November 9, 2012. 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 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 with a \$5/student discount for groups of more than 10 students from a single school. For more information, please visit the website www.micro.iastate.edu or e-mail jcunnick@iastate.edu.



Couldn't Attend Summer Workshops?

If you weren't one of the 37 participants who attended one or more of the 2012 summer workshops offered by the Biotechnology Outreach Education Center, you have another chance next summer. Watch the winter edition of the *Iowa Biotech Educator* and the website at www.biotech.iastate.edu/publications/ed_resources/Workshops.html for details in early 2013.



Photo by Mike Zeller

Lab Notes

Please Recycle and Monitor Supplies

Please Recycle ISU Lab Supplies

During this school year, please recycle any free biotechnology lab supplies that you order from the ISU Office of Biotechnology. The 10X TBE bottles and unused

Iowa Biotech Educator

Volume 20, Number 3
Fall 2012

Published three times a year by the Office of Biotechnology, 1210 Molecular Biology Building, Iowa State University, Ames, Iowa 50011-3260. To subscribe, phone 515 294-9818, fax 515 294-4629, or e-mail lorimill@iastate.edu.

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Editor

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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.

Please Tell Us If DNA Fingerprinting Kit Supplies Are Missing

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/publications/ed_resources/Supplies.html 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.

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

Outreach News



By Mike Zeller
BOEC Coordinator

Biotechnology Outreach Education Center

The extremely hot summer will soon yield to the cooler, more pleasant weather of fall and the start of the 2012-2013 school year. I want to take this opportunity to remind you that the Office of Biotechnology and

Biotechnology Outreach Education Center (BOEC) are here to help you meet some of your life science curriculum requirements. On the front page, you'll find a list of protocols, free materials, and contact information we offer Iowa educators throughout the year. Remember, the BOEC also is available for field trips and school visits during the school year. All of our most popular protocols can be brought to your classroom. 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, or myself, mzeller@iastate.edu, or use our Iowa toll-free number at 800 643-9504.

Summer in the BOEC

This summer, the BOEC conducted two biotechnology education workshops on campus. In total, 24 Iowa

educators had an opportunity to experience both basic and advanced hand-on activities and gain up-to-date content they can use in their classrooms. Attendance at these workshops guarantees free supplies to Iowa teachers, opportunities for both professional development and graduate credit, and interaction with other educators from across the United States on the implementation of biotechnology into your curriculums. These well-established workshops will be offered again next summer. With the demands on your summer time growing, keep in mind our workshops for next year and the advantages our program can offer you and your classroom. All the 2013 workshops are scheduled to be completed before the July 4 holiday.

Bring Biotechnology to Your School

During the last school year, nearly 13,000 Iowa K-12 students used free supplies from the BOEC's program. An additional 3,170 students, educators, and other adults took advantage of our 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. Please share these opportunities with your science colleagues. Any teacher and students are welcome to visit the BOEC or have me visit your classrooms. Attending our summer workshop training is NOT a requirement to take advantage of these opportunities.

Website Updates

During the 2012-2013 school year, the Office of Biotechnology website will be upgraded. One change will affect how lab protocols are available to you. Eventually, all protocols will be available in PDF format only. The html versions will be eliminated. If you want to edit a protocol to fit your unique classroom situation but cannot edit PDF files, you can request a Word version by e-mailing or phoning Lori Miller or me (lorimill@iastate.edu, mzeller@iastate.edu, 800 643-9504). I will keep you informed of specific changes that affect the Outreach Education section of the website.

Fall Science Education

On October 15-16, 2012, the Iowa Science Teachers Section Conference of the Iowa Academy of Science will be moving to the ISU campus in Ames (see story on [p. 4](#)). This conference represents one of the best state science education conferences in the nation.

The ISU Office of Biotechnology and BOEC will have an exhibitor's booth. You are invited 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 ISU materials into your curriculum and find out what's new in biotechnology education. Visit www.iacad.org/ists for registration and more information.

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Remember, the BOEC and Office of Biotechnology are here to assist you in enhancing your curriculum throughout this academic year. Give Lori or me a call at 800 643-9504 or e-mail us, mzeller@iastate.edu or 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.

Did You Know...

- More than 13 million farmers across 25 countries currently plant biotech crops. To date, over two billion acres of biotech crops have been harvested globally.*
- At least 57 different species of plants have been the focus of biotech research over the last two decades.*
- Currently, biotech soybean is the principal genetically modified crop worldwide, followed by corn, cotton, and canola.*
- Scientists have assembled genomic libraries for over 200 organisms.*
- In 1919, Karl Ereky, a Hungarian engineer, published his book *Biotechnologie* using the term “biotechnology” to describe a technology based on converting raw materials into a more useful product. With his work, he hoped to further research into biologically engineering food production to end world hunger. Later, he was called the “Founding Father of Biotechnology.”**
- In 1935, Andrei Nikolaevitch Belozersky isolated DNA in the pure state. This was an important step on the road to genetic modification of whole organisms.**
- In 1937, Arne Tiselius helped develop gel electrophoresis for use on serum proteins and enzymes. Gel electrophoresis is used to separate DNA, RNA, and protein molecules with an electric field applied to a gel matrix.**

Sources:

* *Biotechnology Discoveries and Applications. The 2011 Guidebook.* Neil E. Lamb, Director of Educational Outreach. HudsonAlpha Institute for Biotechnology, Huntsville, AL. August 2011. Available online at www.hudsonalpha.org/sites/default/files/2011-Guidebook.pdf

**HudsonAlpha Institute for Biotechnology. *The Progress of Science.* <http://timeline.hudsonalpha.org/>

Questions? Contact Mike Zeller, mzeller@iastate.edu

From Classroom to Career

Career Conferences for Young Women

Iowa's young women in grades 6-12 can explore career paths in science, technology, engineering, and math at the *Taking the Road Less Traveled* career conferences sponsored by Iowa State University's Program for Women in Science and Engineering (PWSE). Each year, more than 2,500 participants interact with professional women working in these fields. For grades 9-12, the fall conference date is October 11, 2012. For grades 6-8, the fall conference dates are October 18 and 25.

For registration and details, visit the PWSE website at www.pwse.iastate.edu/trlt.html. For more information, e-mail Carol Heaverlo at heaverlo@iastate.edu or contact her at PWSE, 218 Carver Hall, Iowa State University, Ames, IA 50011-2060, phone 515 294-5883.

Awards/Competitions/Grants

Awards for Iowa Educators

Three major award programs for which science Iowa 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. Brief descriptions of each opportunity and links to more information are online at www.biotech.iastate.edu/publications/ed_resources/Ed_funding.html.

Iowa Academy of Science Excellence in Science Teaching Awards

For more than 50 years, the Iowa Academy of Science has recognized outstanding science teachers in Iowa's K-12 schools through the Excellence in Science Teaching Awards Program. Iowa teachers of all grade levels in all science areas are eligible to be nominated by administrators, colleagues, or by self-nomination. The six nomination categories are physical science, life science, earth/space science/environmental science, general/multiple science, middle school/junior high science, and elementary science.

Winners receive \$200, a plaque, and recognition at a luncheon during the Iowa Academy of Science annual meeting. Applications are accepted from February 1 through the following January 31. For more information, e-mail iascience@uni.edu or visit the website at www.iacad.org/recognize.html. Congratulations to the 2012 winners:

Elementary Science – Donna R. Johnson, Neil Armstrong Elementary School, Bettendorf; Christine Sutherland, Kreft Primary School, Council Bluffs

Earth/Space/Environmental Science – Teri Lynn Wiese, North High School, Davenport

General/Multiple Science – Kris Groff, Sheldon High School, Sheldon

Life Science – Mike Goudy, Oskaloosa High School, Oskaloosa

Middle/Junior High Science – Joan Moorhead, Williams Intermediate School, Davenport

Physical Science – Kevin B. McGinity, Ottumwa High School, Ottumwa

National Science Foundation Seeks Nominations for Presidential Teaching Awards

The National Science Foundation is accepting online nominations of teachers of grades 7-12 for the 2013 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 7-12 (2013) and teachers of grades K-6 (2014). The award includes \$10,000, a citation signed by the President of the United States, a paid trip for two to Washington, D.C., and more.

For details, e-mail info@paemst.org or visit the website at www.paemst.org. Online nominations open this fall and close April 1, 2013. The application deadline for nominated teachers is May 1, 2013. Nominations of teachers should be done early enough to allow the nominated teacher time to thoroughly prepare an application before the May 1 deadline.

Congratulations to the 2011 Iowa winners Karla Digmann, George Washington Middle School, Dubuque, (Mathematics) and Jody Stone, Malcolm Price Laboratory School/Northern University High School, Cedar Falls (Science).

Nominate a Colleague or Yourself for the NABT Outstanding Biology Teacher Award

Every year, the Outstanding Biology Teacher Award (OBTA) program of the National Association of Biology Teachers (NABT) 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. Candidates for this award do not have to be NABT members, but they must have at least three years public, private, or parochial school teaching experience. A major portion of the nominee's career must have been devoted to the teaching of biology/life science.

Candidates are judged on their teaching ability and experience, cooperativeness in the school and community,

inventiveness, initiative, and student-teacher relationships. OBTA recipients are honored at a special event during the NABT Professional Development Conference sponsored by BIOZONE and receive microscopes from Leica Microsystems, Inc., and certificates and a complimentary one-year membership from NABT.

To nominate a colleague or yourself, follow the nomination instructions found in the Awards and Opportunities section of the NABT website at www.nabt.org. The deadline for 2013 nominations is March 15, 2013. For more information, contact Iowa's OBTA Awards Directors Mike Zeller, mzeller@iastate.edu, or Doug Herman, [herman.doug@iccsd.k12.ia.us](mailto:doug@iccsd.k12.ia.us).

Congratulations to the 2012 Iowa winner, Laura McCreery, North High School, Davenport.

Three Ways to Read the *Iowa Biotech Educator*

Iowa Biotech Educator subscribers can choose how they want to read the newsletter. So choose your favorite and keep on reading each issue!

Print Subscriptions

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E-Mail Subscriptions

Readers can receive each issue free by e-mail as a PDF attachment. To stop your print subscription and get future issues by e-mail, please notify Lori Miller (lorimill@iastate.edu) and include the e-mail address where the newsletter should be sent.

Online Subscriptions

Anyone can read each issue free online at the Office of Biotechnology's website. The issues are available at www.biotech.iastate.edu/publications/IA_biotech_educator/default.html as PDF files. (If you were a fan of the HTML version that no longer is offered, let Lori Miller know and it might make a comeback.)

Visit Us Online
Biotechnology Outreach Education Center

www.biotech.iastate.edu/outreach.html

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About the ISU Public Education Program in Biotechnology. . .

Iowa State University's Public Education Program in Biotechnology thanks donors for their generous support:

Sustaining donor: Iowa Biotechnology Association

Major donors: Ajinomoto Food Ingredients, LLC/Ajinomoto Heartland, LLC; Bayer CropScience; Cargill; Genencor International, Inc.; Golden Harvest Research; Growmark; the Greater Cedar Rapids Foundation–Diamond V Mills Donor-Advised Fund; the Iowa Farm Bureau Federation Agricultural Foundation; the Iowa Soybean Promotion Board; Iowa State University Extension and Outreach; Kemin Americas; MBS Genetics, LLC; Pioneer Hi-Bred International, Inc.; the Roy J. Carver Charitable Trust; Syngenta Seeds, Inc.; West Central Cooperative; and private individuals.

To Contact the Program

Phone: 515 294-9818 or, toll-free in Iowa, 800 643-9504

Fax: 515 294-4629

E-mail: biotech@iastate.edu

WWW: www.biotech.iastate.edu

Public Education Program Personnel

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Director of the Office of Biotechnology

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