Registration for Summer 2008
Workshops Closes May 23

The deadline for registering for the 2008 summer workshops offered by the Office of Biotechnology at Iowa State University is May 23. Educators in public or private schools or those who work with youth in 4-H or other community programs can update their biotechnology and bioethics teaching skills while they earn professional development or graduate credits at the workshops.

For more information about the biotechnology education workshops, contact Mike Zeller or Lori Miller toll-free in Iowa at (800) 643-9504, or e-mail mzeller@iastate.edu or lorimill@iastate.edu. For more information about the bioethics workshop, please contact Clark Wolf at (515) 294-3068 or e-mail jwcowolf@iastate.edu. To register for any workshop, please contact Lori, use the form on p. 5, or use the online registration or pdf forms available at www.biotech.iastate.edu/ed_resources/regis_form_summer2008.html. Please submit your registration to arrive by May 23.

June 9-12
Biotechnology Education Workshop I for Science, Agriculture, and Family and Consumer Sciences Educators

Iowa State University, Ames, Iowa
2 professional development credits - $25
1-2 ISU graduate credits - $359 per credit
$200 stipend available for Iowa schoolteachers ($50 per day)
Travel reimbursement available for ISU Extension educators/personnel (up to $50 per day)
Registration deadline - May 23

This workshop course is directed at science, agriculture, and family and consumer sciences educators who want to gain the basic knowledge and laboratory skills necessary to teach biotechnology in their classrooms. Teachers will learn how to prepare and instruct the laboratories in DNA extraction and quantification from various sources, DNA transformation, DNA fingerprinting, bioinformatics, bioethics, and more. Educators will prepare and perform the lab protocols as the students would do in class.
June 17-19
Bioethics Workshop I
Iowa State University, Ames, Iowa
1 professional development credit - $25 and/or
1 ISU graduate credit - $359 per credit
$100 stipend available for Iowa schoolteachers
($50 per day)
Travel reimbursement available for ISU Extension
educators/personnel (up to $50 per day)
Registration deadline - May 23

This course is designed for educators who are interested
in discussing bioethics with their students or extension
audiences. The focus will be on ethical issues in
biotechnology, especially agricultural biotechnology, but
other topics relevant to both agriculture and human health
will be covered. Students will work through activities and
case studies that they can take home and use with their
classes. Pedagogical issues in teaching bioethics will also
be covered, including appropriate objectives for bioethics
units; various approaches to bioethics pedagogy; how to
relate bioethics issues to personal ethical issues familiar to
students; how to help students identify ethical issues; how
to address bioethics while respecting diversity of views in
the classroom; and assessment for bioethics units.

July 8-11
Biotechnology Education Workshop II – Advanced
Workshop for Science, Agriculture, and Family and
Consumer Sciences Educators
Iowa State University, Ames, Iowa
2 professional development credits - $25 and/or
1-2 ISU graduate credits - $359 per credit
$200 stipend available for Iowa schoolteachers ($50
per day)
Travel reimbursement available for ISU Extension
educators/personnel (up to $50 per day)
Registration deadline - May 23

This advanced workshop is open to science, agriculture,
and family and consumer sciences educators who have
attended one of the previous biotechnology workshops.
Educators will learn how to prepare and instruct advanced
biotechnology laboratories in their classrooms. Activities
will include marker assisted selection, DNA isolation,
recombinant DNA techniques, DNA amplification,
restriction analysis of DNA, bioinformatics, sequencing,
genomics, bioethics, and more. Educators will prepare and
perform the lab protocols as their students will do in class.

Interested in attending the advanced workshop at Iowa
Lakes Community College in Emmetsburg?
See p. 3 for details.

Before You Leave for the Summer...

As the school year winds down, please take a few minutes to
check your lab supplies. Thanks for your help and have a
great summer!

Please Recycle ISU Lab Supplies

Before leaving for the summer, please recycle any free
biotechnology lab supplies that you ordered from the ISU
Office of Biotechnology during this school year. The 10X
TBE bottles, Carolina Blu DNA Stain, 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.

Your Help Is Needed to Maintain DNA Fingerprinting Kit
Supplies

Iowa educators who use the DNA fingerprinting kits that
can be checked out from ISU Extension offices or Area
Education Agencies around the state can help keep the
contents up-to-date. The kits, provided by Iowa State's
Office of Biotechnology, 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 checked out a kit this year and
found that an item was 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.

Outreach News

By Mike Zeller
BOEC Coordinator

Biotechnology
Outreach Education Center

It’s certain many of you are facing an
extended school year, compliments
of the 2007-08 Iowa winter. As your
thoughts turn toward reaching the
summer break, it is time to consider
attending one or more of our workshop offerings. Beginning
June 9th, three workshops will be held on-campus in Ames
(see p. 1) and one at Iowa Lakes Community College in
Emmetsburg (see later in this column). Past workshop
attendees have found it useful to attend newer workshops as
a refresher to learn new content and to update knowledge of materials and techniques. Please pass this information along to a colleague or two who might be interested in bringing the newest life science principles and techniques into their classrooms, while earning professional development or graduate credit.

**BOEC in Action**
The Biotechnology Outreach Education Center (BOEC) has been very busy the past few months. A total of 22 different groups took advantage of the on-site and outreach components of the BOEC. If you plan to visit the BOEC or wish the BOEC to come to your school before the end of the school year, there are a few dates left. Give Lori Miller or myself a call immediately at (800) 643-9504, toll-free in Iowa, to schedule a date.

**Upcoming Events**
Of course, the big events for the BOEC are the summer workshops. This year, along with our traditional on-campus workshops, we have expanded our offerings with the addition of an off-campus workshop at Iowa Lakes Community College. This is the advanced workshop and one of the few times it will be offered away from the ISU campus. For more information and to register, contact the person listed below.

Biotechnology Education Workshop II
Iowa Lakes Community College, Emmetsburg
June 16-20, 2008
Contact: Marv Carlson  mcarlson@iowalakes.edu

I hope to see some of you this summer in the workshops and look forward to helping everyone bring biotechnology into your classrooms.

The next issue of the *Iowa Biotech Educator* will greet you as you arrive back at school in August. That issue will announce all materials, familiar and new, that will be available for you during the 2008-09 school year. Have a great summer!

**Educational Opportunities**

**Project BIO Online Courses for Summer 2008**

Project BIO is a partnership of biology educators and students at Iowa State University, Iowa community colleges, Iowa high schools, and Iowa industries. Teachers and high school students can earn college credit by taking online courses offered by Project BIO. Science-related courses offered for three credits during summer 2008 include the following:

- Biol 101 Introductory Biology
- Biol 155 Introduction to the Human Body
- Biol 173/Env S 173 Environmental Biology
- Biol 211 Principles of Biology I
- Gen 308/508 Biotechnology in Agriculture, Food, and Human Health

For updated information on course offerings and more details, view the Project BIO Web site at [http://project.bio.iastate.edu](http://project.bio.iastate.edu) and follow the Online Courses link, or contact Dr. Tom Ingebritsen, phone (515) 294-9432, e-mail tisingbr@iastate.edu. Iowa high school students who want to take a course under the Postsecondary Enrollment Options Act will find details about this program at [http://project.bio.iastate.edu/Courses/hsinfo.htm](http://project.bio.iastate.edu/Courses/hsinfo.htm).

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**Grants/Competitions**

**Biotechnology Awards Presented at State Science and Technology Fair of Iowa**

*by Jay Staker, Chairman of the Board, State Science and Technology Fair of Iowa; Program Director, ISU Extension-Science, Engineering and Technology (E-SET); and Associate Director of Education, Iowa Space Grant Consortium*

The 2008 State Science and Technology Fair of Iowa held March 28-29 at Iowa State University featured biotechnology in more than just the exhibits. The fair has had strong biotechnology-related student research for years, and this year was no exception. The high level of awards that were given to biotechnology projects evidenced the level of quality this year.

This year the top senior project was done by Carrie Wubben of Woden-Crystal Lake-Titonka High School. Wubben's project “Characterization of Genes Involved in *Myxococcus xanthus* Fruiting Body Formation to Understand the Formation of Biofilms” was selected as the top senior project and was awarded a $7,000 scholarship from the Iowa Space Grant Association. The project also was awarded a $2,000 scholarship from the Iowa Biotechnology Association (IBA) as one of the top five biotechnology-related projects.

Ryan Brasser of South O-Brien High School, Qiushuang (Michelle) Jin of West Senior High School, and Atreya Dey of Maharishi School were also selected as top biotechnology projects and each received a $2,000 scholarship from the IBA. The fifth IBA $2,000 scholarship was awarded to Peter Yin of Ames High School. Yin's project “Can Green Tea Reduce the Spread of Antibiotic Resistance?” was judged to be the top overall high school project.

*(continued on p. 4)*
Award winning fair exhibits that are biotechnology-related are an annual part of the fair, but this year had a unique biotechnology award. The Iowa Biotechnology Association was inducted into the State Science and Technology Fair of Iowa Hall of Fame.

The IBA is comprised of interested stakeholders in Iowa who work together to promote biotechnology. As supporters of the fair, the IBA has served on its Advisory Board and has provided scholarships and judges at the fair for the last 12 years.

The Hall of Fame award was accepted for the IBA by Doug Getter, the association’s executive director. Doug helps out at the fair every year and has been a strong supporter, providing financial and leadership support by serving on the SSTFI Advisory Board.

For more information about the 2008 fair results or a preview of the 2009 fair, visit the Web site at www.sciencetariofio.org or contact fair director Andrea Spencer, aspence@iastate.edu, phone (515) 460-5559.

Congratulations to Science Bowl Winners

Congratulations to Cedar Rapids-Marion Home School students who won the 18th annual Regional Science Bowl sponsored by the U.S. Department of Energy’s Ames Laboratory and Iowa State University in January.

Students Leif Gaebler, Edward Talmage, Evan Gaebler, Andrew Baskerville, Alan Talmage, and their coach Sally Gaebler advanced to the National Science Bowl held this month in Washington, D.C.

Congratulations also to runner-up Des Moines Central Academy and third place winner West Des Moines Valley.

A new drop-down menu at the left of the screen provides a quick way for site visitors to find what they need. For educators, the menu option titled Outreach Education will lead you to familiar resources such as equipment and supplies, summer workshop information, lab activities, step-by-step tutorials, curriculum units, the Iowa Biotech Educator and Bioethics in Brief newsletters, and contact information for biotechnology outreach education personnel Mike Zeller and Lori Miller.

The menu option titled Students leads to a publication about ISU majors that can prepare a person for a biotechnology-related career. There also is a link to a biotechnology research faculty directory that briefly describes the work of hundreds of researchers at Iowa State University who are using biotechnology in their careers.

If you have suggestions for improving the site, your input is welcome. Please e-mail Camie at camstock@iastate.edu.
Registration Form for 2008 Biotechnology Education Summer Workshops

Registrations are due by MAY 23, 2008, for all workshops.

Name ___________________________________________________________________________________________________

School district or extension area ____________________________________________________________________________

Subject areas taught_______________________________________________________________________________________

Home (summer) mailing address ____________________________________________________________________________

Work phone ____________________    E-mail__________________________________    Home phone __________________

I would like to register for the following Biotechnology Education Workshop(s) to be held at Iowa State University in Ames:

_____ June 9-12  Biotechnology Education Workshop I for Science, Agriculture, and Family and Consumer Sciences Educators

_____ June 17-19 Bioethics Workshop I

_____ July 8-11  Advanced Biotechnology Education Workshop II for Science, Agriculture, and Family and Consumer Sciences Educators

Credit available: 1-2 professional development credits AND/OR 1-2 graduate credits

(See workshop descriptions on p. 1-2.)

Credit payment and housing information will be sent to you when your registration is received.

Register early! Class sizes are limited. Return this registration form by mail or fax before the deadline to:

Lori Miller
Office of Biotechnology
1210 Molecular Biology Building
Iowa State University
Ames, Iowa  50011-3260
Fax: (515) 294-4629 • Phone: (515) 294-9818 or toll-free in Iowa 1-800-643-9504 • E-mail: lorimill@iastate.edu


Publicity/Image/Voice Permission

The Office of Biotechnology normally takes photographs, video, and/or tape recordings of our programs. During these workshops, a photograph or video/audio recording may be taken of you. Unless you request otherwise, your application will be considered permission for Iowa State University and the Office of Biotechnology to photograph, film, audio/video tape, record and/or televise your image and/or voice for use in any publications or promotional materials, in any medium now known or developed in the future without any restrictions. If you object to ISU using your image or voice in this manner, please notify the Office of Biotechnology, in writing, at the time of your application.

Iowa State University does not discriminate on the basis of race, color, age, religion, national origin, sexual orientation, gender identity, sex, marital status, disability or status as a U.S. veteran. Inquiries can be directed to the Director of Equal Opportunity and Diversity, 3680 Beardshear Hall, (515) 294-7612.
About the ISU Public Education Program in Biotechnology.

Iowa State University's Public Education Program in Biotechnology is supported by ISU Extension; 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 Biotechnology Association; the Iowa Farm Bureau Federation Agricultural Foundation; the Iowa Soybean Promotion Board; 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
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