Michael Zeller to Be Biotechnology Outreach Education Coordinator at ISU

Michael Zeller, a nationally-honored high school teacher at Woodward-Granger Community School, has been named Iowa State University's first biotechnology outreach education coordinator. Zeller will assume the position in January.

As biotechnology outreach education coordinator, Zeller will develop and conduct workshops for K-12 teachers and students, extension service professionals, adult educators, industry personnel, and the public. His responsibilities will include developing curriculum, networking with other biotechnology educators, and pursuing outside funding for educational programs.

Many of the educational activities will be conducted in ISU's new Biotechnology Outreach Education Center that is scheduled to be completed by year’s end.

Since 1977, Zeller has taught at Woodward-Granger Community School where he heads the school district's science department. He has taught courses in molecular biology and recombinant DNA, biology, chemistry, ecology, anatomy and physiology, physical science, and physics.

Zeller is well-known nationally among science teachers. He has made numerous presentations at meetings of the National Science Teacher Association (NSTA) and the National Association of Biology Teachers. In 1996, he presented a paper at the NSTA International Global Summit in Science and Science Education. From 1991-1996, Zeller served on the NSTA Student Programs Committee, which he chaired for two years.

Zeller is a Fellow of the Iowa Academy of Science and is a past president of the Iowa Science Teacher's Section of the Academy, where he chaired many programs and received several awards for innovative science teaching. In 1992, Zeller won (continues on page 2)
Zeller – continued from page 1

an Iowa Governor's Teacher Award for Community Involvement for designing a molecular biology science program.

Zeller has served on the governing board of the Iowa Coalition for Mathematics and Science, the Pioneer Hi-Bred International Biotechnology Advisory Committee, and the ISU Biotechnology Education Advisory Council. Since 1997, Zeller has instructed biotechnology education workshops held at ISU for teachers of science, agriculture, and family and consumer sciences.

Zeller received a B.A. in biology from Westmar College, LeMars, in 1975 and an M.S. in curriculum and instructional technology in science education from ISU in 1992. In 1988-89, he received a grant from Pioneer Hi-Bred International to study recombinant DNA techniques at Cold Spring Harbor, NY, and a grant from the National Science Foundation to study curriculum development at ISU.

Biotechnology Outreach Education Center Update

Fall has been an exciting time for Iowa State University's new Biotechnology Outreach Education Center. From a tangle of pipes, wires, and drywall, the teaching laboratories are taking shape day-by-day. (See photo on page 4.) The Center is on track for completion by the end of the year. Here are some recent highlights.

Cargill Presents $25,000 Check to ISU

Cargill highlighted its contribution of $25,000 to the Biotechnology Outreach Education Center with a check presentation ceremony on Aug. 13 at Cargill’s North American Corn Milling facility near Eddyville, Iowa. Walter R. Fehr, C.F. Curtiss Distinguished Professor of Agriculture and Director of Biotechnology, accepted the check on behalf of ISU.

The grant originated through Cargill's North American Corn Milling division. Its $12,500 contribution was matched by Cargill's Higher Education Initiative that aims to build mutually beneficial partnerships between the company and key universities. Iowa State is one of 16 schools supported through the program.

“We are pleased to continue our partnership with the university,” said Jack Staloch, vice president/general manager, Cargill worldwide acidulants. “The center will be a tremendous resource for educators and others interested in the field of biotechnology.”

MBS Incorporated and Diamond V Mills Are New Donors

MBS Incorporated of Story City and Diamond V Mills of Cedar Rapids have added their names to the list of Iowa donor partners for the Biotechnology Education Center. The Diamond V contribution was awarded to ISU in a competitive grant process through The Greater Cedar Rapids Foundation-Diamond V Mills Donor-Advised Fund. For a list of donors to the ISU Public Education Program in Biotechnology, see the back cover of this newsletter.

ISU Office of Biotechnology Receives 4-H Partners Award

Iowa State University's Office of Biotechnology received a 4-H Partners Award at the Iowa 4-H Recognition Banquet on Aug. 28. The award is given to businesses and organizations that have made significant contributions to the 4-H program.

The Office of Biotechnology at ISU makes it possible for Extension 4-H Youth Development to reach more than 5,000 youth each year and expose them to the complex scientific and technological issues involved with biotechnology. The biotechnology office supports Extension 4-H Youth Development in many ways by:

• providing training for extension staff to keep them up-to-date on the latest biotechnology information,
• developing and funding biotechnology equipment kits that can be checked out from county extension offices for use in youth programming,
• providing funds and assistance in the development of school enrichment materials for students in grades 4-12, and
• conducting training workshops for educators across the state and providing free lab supplies.

(continues)
Other recipients of 1999 4-H Partners Awards were Solutions, Inc., of Des Moines and the Iowa Space Grant Consortium.

– Based on a news release by ISU Extension Communications

**Biotech Workshop in Northeast Iowa Draws 16 Teachers**

Sixteen teachers in northeast Iowa learned how to implement biotechnology activities in the classroom at a workshop held in Decorah on August 16-17. The professional development workshop was taught by ISU Science and Technology Youth Specialist Debbie Curry, in conjunction with AEA 1 and the Winneshiek County Extension Office.

The teachers attending were from Decorah, North Winneshiek, and Riceville schools. Their content areas included science, family and consumer sciences, and agriculture, and the grade levels taught ranged from 4th to 12th grade. Teachers could earn graduate credit or continuing education units (CEUs) for the workshop.

“This workshop was unique because we invited teams of teachers from grades 4-12 in each school to attend the same workshop at the same time,” Curry said. “They participated in biotech activities for each others’ grade levels.”

During the 15-hour workshop, the teachers gained hands-on experience with activities related to cells and microscopes and genetics, including DNA extraction and fingerprinting. They also learned about bioethics and issues, some new biotechnology products, and resources for teaching biotechnology. Near the end of the workshop, teams of teachers worked on implementation plans for their school.

“In their plan, the teacher teams determined what biotech-related content should be taught at their school during each of the 4-12 grade levels,” Curry said. "It’s a professional development approach that we’d like to try with other school districts or AEAs.”

For more information, interested schools or AEAs should contact Debbie Curry, 32 Curtiss Hall, ISU, Ames IA 50011, phone (515) 294-8417, FAX (515) 294-1047, or e-mail x1curry@exnet.iastate.edu.

**Educational Opportunities**

**Teachers, Mark Your Calendars for October 2000 Conference**

For a unique professional development opportunity, mark your calendars for the *Extension’s Role in Biotechnology Education* conference to be held at Iowa State University from October 8-10, 2000. Conference events are designed for extension youth and adult educators and their partners in education, including teachers, agricultural producers, and the biotech industry.

Through concurrent workshops, interactive events, and keynote presentations, educators can:

- experience model educational activities designed by extension and other professionals;
- gain knowledge in program content, delivery methods, resources, and networks;
- learn ways to facilitate discussions of new biotechnology products and issues, bioethics, and controversies;
- better understand the role of biotechnology in agriculture and human health;
- explore consumer resistance to biotechnology; and
- learn how to help consumers understand the benefits and risks of biotechnology.

For more information and a preliminary agenda, follow the conference web site link at [http://www.biotech.iastate.edu/](http://www.biotech.iastate.edu/). To be placed on a mailing list for conference updates, please contact the Office of Biotechnology at the address listed in the box on page 4.

**Jr.-Senior High Girls Can ‘Take the Road Less Traveled’ at ISU**

Iowa girls in grades 6 through 12 can attend a career conference just for them. “Taking the Road Less Traveled” is an annual event at Iowa State University that provides opportunities for girls to explore nontraditional careers for women in math, science, engineering, and technology. During the 1999-2000 school year, the spring conference dates are April 6 for grades 9-12 and April 13 and 19 for grades 6-9. The remaining fall conference date is October 28 for grades 9-12.

At the conference, women professionals in science, math, engineering, and technical fields provide information about their careers and the academic preparation that students need to pursue them. Special resource sessions for parents and educators include strategies for assisting girls as they select science and math courses, counteracting classroom and
curriculum gender stereotyping, and encouraging young women who are pursuing nontraditional careers in college.

Registration information for the April conference dates should be sent to Iowa schools in mid-January. For more information or to be placed on the conference mailing list, please contact Linda L. Dutton, Program for Women in Science and Engineering, 203 Lab of Mechanics, ISU, Ames, IA 50011-2130, e-mail: ldutton@mail.adp.iastate.edu, or phone (515) 294-5319.

Out of the Chaos of Construction . . . Will Come New Opportunities

This is how the Biotechnology Outreach Education Center construction site looked early this fall. By the end of the year, the Center will be finished and teachers will find new opportunities to learn about biotechnology in state-of-the-art teaching laboratories. See the story on page 2 for more about the Center.

High School Students/Teachers Can Earn Biology Credits Online

Iowa State University’s Project BIO offers college credit for online biology courses to high school students and teachers. For more information, check the Project BIO web site at http://project.bio.iastate.edu and follow the online courses link, or contact Dr. Tom Ingebritsen, phone: 515-294-9432, e-mail: tsigner@iastate.edu.

High school students interested in taking courses under the Postsecondary Enrollment Options Act will find details about this program at http://project.bio.iastate.edu/Courses/hsinfo.htm.

Courses offered for spring semester 2000 include the following:

- Biology 202 – Principles of Biology II, 3 credits, IM
- Biology 109 - Introductory Biology, 3 credits, NM
- Biology 123 - Environmental Biology, 3 credits, NM
- Zoology 155 - Basic Human Physiology and Anatomy, 3 credits, NM
- Genetics 308/508 – Biotechnology in Agriculture, Food, and Human Health; 2 credits, AU/G
- Microbiology 302 – Biology of Microorganisms, 3 credits, AU
- Microbiology 501 – Advanced Microbiology, 3 credits, G

Key – IM = introductory majors  NM = non-majors
        AU = advanced undergraduate  G= graduate
Free Biotechnology Careers Brochure

A new brochure about biotechnology majors at Iowa State University can help your students learn how to prepare for exciting science-related careers. The brochure, simply titled Biotechnology, features 19 academic departments, ISU’s biotechnology faculty, state-of-the-art research facilities, and special learning opportunities such as internships, honors programs, and learning communities.

The new brochure was prepared by the Office of Biotechnology and published by the ISU Admissions Office. It is available free from ISU’s Extension Distribution Center, 119 Printing and Publications Building, ISU, Ames, IA 50011-3171, phone 515-294-5247, FAX 515-294-2945, or e-mail pubdist@exnet.iastate.edu. The publication number is 4H-957. Watch for an online version on the Office of Biotechnology homepage at http://www.biotech.iastate.edu.

Master Biotechnology Teachers Can Help

The Master Biotechnology Teachers are a group of specially trained Iowa teachers who want to help other educators incorporate biotechnology into the classroom. These master teachers answer questions and provide assistance to other teachers throughout Iowa.

If you have a biotechnology question, feel free to contact one of the Master Biotechnology Teachers for help. If no one is listed for your AEA, please direct your questions to Mike Zeller who is listed under AEA 11.

Note to Master Teachers: If your name does not appear in this list, and you wish to continue as a resource person, please contact the Office of Biotechnology at 1-800-643-9504 and your name will appear in a future issue.

AEA 1
Dave Millis
Edgewood-Colesburg High School
403 West Union
Edgewood, IA 52042
School phone: (319) 928-6412
School FAX: (319) 928-6414
E-mail: dmillis@edge-cole.k12.ia.us

AEA 3
Morris Green
Emmetsburg High School
2nd and King
Emmetsburg, IA 50536
School phone: (712) 852-2966
School FAX: (712) 852-3317
E-mail: mgreen@emmetsburg.k12.ia.us

AEA 4
Kevin Brasser
South O’Brien School
216 South Rutledge, Box 638
Paullina, IA 51046
School phone: (712) 448-3454
School FAX: (712) 448-3453
E-mail: kjbrasser@s-obrien.k12.ia.us

Diane Den Herder
Sioux Center Community High
550 9th Street NE
Sioux Center, IA 51250
School phone: (712) 722-2981
School FAX: (712) 722-2986
E-mail: dndnhrdr@sioux-center.k12.ia.us

AEA 5
Cindy Reher
Humboldt Senior High
1500 Wildcat Road
Humboldt, IA 50548
School phone: (515) 332-3574
School FAX: (515) 332-7130
E-mail: reher@humboldths.humboldt.k12.ia.us

AEA 6
Jerry Heying
Marshalltown High School
1602 South 2nd Ave.
Marshalltown, IA 50158
School phone: (515) 754-1130
School FAX: (515) 754-1136
E-mail: biology@adiis.net or gheying@marshalltown.k12.ia.us

AEA 9
Barb Jacobsen
Bettendorf High School
3333 18th Street
Bettendorf, IA 52722
School phone: (319) 332-7001
School FAX: (319) 332-8761
E-mail: Bjacobse@po-1.bettendorf.k12.ia.us

(continues on page 6)
Free or Low-Cost Educational Resources

Master Teachers – continued from page 5

AEA 10
Gary Garton
Iowa City High
1900 Morningside Drive
Iowa City, IA  52245
School phone:  (319) 339-6811
School FAX:  (319) 339-5705
E-mail:  GLGarton@aol.com

AEA 11
Jay Staker
Ballard Community High School
P.O. Box 307, 509 N. Main Street
Huxley, IA  50124
School phone:  (515) 597-2971
School FAX:  (515) 597-2964
E-mail:  jstaker@ballard.k12.ia.us

Mikes Zeller
Woodward-Granger High School
306 West 3rd St.
Woodward, IA  50276
School phone:  515-438-2115
School FAX:  515-438-4329
E-mail:  mzeller@hawk.woodward-granger.k12.ia.us

AEA 12
Doug Herman
Biology Department
East High School
Sioux City, IA 51106
School phone:  (712) 274-4020
School FAX:  (712) 274 4670
E-mail (home):  dhshawk@cableone.net
E-mail (school):  hermand@ehs.sioux-city.k12.ia.us

Carol Sadler
Battle Creek/Ida Grove High School
900 South Montgomery
Ida Grove, IA  51445
School phone:  (712) 364-3371
School FAX:  (712) 364-4463
E-mail:  csadler@whills.aea12.k12.ia.us

Ronald Wilmot
Akron-Westfield School
850 Kerr Drive
Akron, IA 51001
School phone:  (712) 568-2020
School FAX:  (712) 568-2997
E-mail:  rwilmot@aw-frontier.akron-westfield.k12.ia.us

AEA 13
Pat Campbell
Lewis Central High School
1600 East South Omaha Bridge
Council Bluffs, IA 51503-7820
School phone:  (712) 366-8222
School FAX:  (712) 366-8340

AEA 15
Steve Dent
Davis County High School
106 NE Street
Bloomfield, IA  52537-1432
School phone:  (515) 664-2200, Ext. 140
School FAX:  (515) 664-2221
E-mail:  dents@aea15.k12.ia.us

AEA 16
Ernest Schiller
Central Lee High School
Highway #218 South
Donnellson, IA  52625
School phone:  (319) 835-5121
School FAX:  (319) 835-5709
E-mail:  eschiller@central-lee.k12.ia.us

ISB News Report

ISB News Report is a free monthly online newsletter for the agricultural and environmental biotechnology community. The newsletter is produced through a joint project of the U.S. Department of Agriculture and the Virginia Polytechnic Institute and State University. ISB News Report contains articles about biotechnology research, issues, and regulations in the U.S. and other regions of the world. For example, a recent issue included articles about Bt resistance in corn borer, technology to alter a plant's own genes, an alternative to using antibiotic marker genes, and the Freedom of Information Act as it relates to research data.

To have the ISB News Report automatically e-mailed to you each month, send an e-mail message to news@nbiap.biochem.vt.edu and type “subscribe newsreport (your name)” in the message section. Substitute your name and omit the parantheses when you send the actual message. It is also a good idea to turn off your signature before sending the message. For Internet access to the News Report, text files, and data bases, visit the site at http://www.isb.vt.edu.
**NSTA 2000 Awards for Teachers and Students**

More than $1 million will be awarded to teachers and students by the National Science Teachers Association and its sponsors in the year 2000. For more information about the following awards or competitions, visit the NSTA's homepage at [www.nsta.org/programs](http://www.nsta.org/programs), call the NSTA's fax-on-demand service at 1-888-400-6782 or the NSTA office at 703-243-7100, or send a letter with the names of the programs in which you are interested to NSTA Awards Programs, 1840 Wilson Boulevard, Arlington, VA 22201-3000.

**Ciba Specialty Chemicals Exemplary Elementary Science Teaching Awards and Exemplary Middle Level and High School Science Teaching Awards**

Ciba Specialty Chemical Corporation is awarding $1000 cash, one-year memberships in NSTA, and up to $500 to attend NSTA's National Convention to exemplary elementary, middle school, and high school science teachers. Full-time elementary or middle level and high school teachers are eligible. Application deadline: November 15, 1999.

**Toyota TAPESTRY Grants for Teachers**

Toyota Motor Sales, U.S.A., Inc., sponsors grants for middle and high school science teachers who spend at least 50% of their classroom time teaching science and for elementary teachers who teach some science in the classroom. Grants are awarded for innovative projects that enhance science education in the school and/or school district. Fifty one-year grants of up to $10,000 each will be awarded this year. Application deadline: January 20, 2000.

**The Science Teaching Award**

This $10,000 award plus an all-expenses-paid trip to the NSTA National Convention recognizes an outstanding K-12 science teacher. The award is sponsored by the Shell Oil Company. Application deadline: November 15, 1999.

**DCAT “Making a Difference” Award**

Middle school science teachers, grades 6-8, are honored for innovative and effective teaching strategies within a science program that influences students to explore science and apply it to global problems. The program is sponsored by the Drug, Chemical, and Allied Trades Association Education Foundation. The award is $2,500 for the winning science program plus some travel expenses to the NSTA National Convention. Application deadline: November 15, 1999.

**Gustav Ohaus Programs for Innovations in Science Teaching**

One $1,000 and one $750 award are given to innovative science teachers in each of four grade-level categories: elementary, middle school, high school, and college. The awards, sponsored by the Ohaus Corporation, honor teachers who have developed innovative programs in new curriculum design, instructional methods or techniques, organization, administrative patterns, laboratory activities, or other enhanced learning activity for students. Application deadline: November 15, 1999.

**Toshiba/NSTA ExploraVision Awards**

Working in teams with a teacher advisor, students in grades K-12 select a current technology to explore and project what that technology could be like 20 years from now. Each team prepares a written description and graphics illustrating its project. Winning students receive savings bonds of up to $10,000, with additional gifts awarded to other student winners, advisors, and schools. The competition is funded by the Toshiba Corporation, the Toshiba America Group Companies, and the Toshiba America Foundation and is administered by the NSTA. Application deadline: February 2, 2000.

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**Biotech on the Internet**

**Cut the Fat–Keep the Flavor Curriculum Goes Online**

Cut the Fat–Keep the Flavor can now be viewed on the ISU Office of Biotechnology homepage at [http://www.biotech.iastate.edu](http://www.biotech.iastate.edu) by following the “Educational Resources” and “Curriculum Units” links. Currently, the unit can be viewed in html format with graphics. A pdf version is in the works.

Cut the Fat–Keep the Flavor is a curriculum unit for advanced middle school or high school students that focuses on how agricultural genetics is being used to develop products with reduced saturated fat. The unit features a new low-saturated-fat soybean oil that was developed at Iowa State University and was first marketed in Iowa. The oil is available to schools through the USDA's National School Lunch Program as a commodity item and is sold as LoSatSoy™ commercially. (LoSatSoy™ is a trademark of the Iowa State University Research Foundation, Inc.)

A printed version of Cut the Fat–Keep the Flavor may be purchased from ISU's Extension Distribution Center in Ames, 119 Printing and Publications Building, ISU, Ames, IA 50011-3171, phone 515-294-5247, FAX 515-294-2945, or e-mail pubdist@exnet.iastate.edu. The publication number is 4H-956. To save the $3.50 postage cost, order the printed version through your local county extension office.

Visit the Office of Biotechnology homepage at [http://www.biotech.iastate.edu](http://www.biotech.iastate.edu) to view all our latest publications.
About the ISU Public Education Program in Biotechnology...

Iowa State University's Public Education Program in Biotechnology is supported by AgrEvo/Plant Genetic Systems; Ajinomoto U.S.A., Inc./Heartland Lysine, Inc.; Cargill, Inc.; 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; Kemin Industries, Inc.; MBS, Inc.; Novartis Seeds, Inc.; Pioneer Hi-Bred International, Inc.; the Roy J. Carver Charitable Trust; West Central Cooperative; and private individuals.

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