Department News

Allan Scholz, Professor of Biology, was named “Best of the West Educator of the Year” by the West Plains Chamber of Commerce.

The award recognizes Scholz’ excellence in teaching, professional and scholarly activity, and service to Eastern Washington University and the community. Scholz received the award February 10 at the Best of the West Plains Annual Meeting and Community Celebration.

Scholz has had a profound effect on many Biology students. He routinely teaches Introductory Biology for undergraduate majors, Growth of Biological Thought for graduate students, and fisheries related courses (ichthyology and fisheries management) for majors focusing on aquatic biology. Scholz believes true preparation for careers in biology comes from extensive fieldwork. He and his students spend many nights and weekends on boats collecting data for research projects. By utilizing the Biology Department’s equipment and electrofishing boat, students gain valuable research experience. Many of Scholz’ students have gone onto leadership careers in fisheries management.

The electrofishing boat is 24 years old, leaks from extensive use, and will need to be retired soon. Efforts to replace the specially-outfitted boat are under way, but it could be some time before the purchase price of over $115,000 is raised. The new boat will be slightly larger so can accommodate more students and will be equipped with a sonar/global positioning system and a Remotely Operated Vehicle (ROV). The ROV has an underwater TV camera which allows students to observe fish behavior. This is useful for observing furtive fish species that are difficult to capture in nets or with electrofishing gear. Contact Al Scholz to find out what you can do to help the Biology Department continue providing quality learning experiences for EWU’s aquatics students.

Plant Genetics Increase Crop Yield: Cassava and Sorghum

The EWU Biotechnology Program has had an ongoing collaboration with the Cape Coast University in Ghana to create cassava with increased shelf life and rot resistance. Cassava is a large, starchy tuber, which is the main food staple for many people in Ghana, West Africa. Dr. Don Lightfoot, Associate Professor, has worked with several people to set up and maintain this cooperative genetic study between the EWU biotechnology laboratory and the facility in Ghana. Isaac Galyuon, a lecturer who worked with Lightfoot, helped to develop the first growth stages at the beginning of the cassava project. He came to EWU in the Spring of 1998 as an exchange professor to study molecular biology and biotechnology. He also presented a lecture on the growth and production of cocoa and took part in recombinant DNA research.

A West African native, Isaac has a vast interest in this emerging technology, and helped to establish a biotechnology laboratory at Cape Coast University (UCC). In 2001, UCC received a $10,000 grant to expand the laboratory facilities and hire more staff. Cassava research was suspended while work on the lab progressed. It is nearing completion, shelves for tissue culture have been provided, and some tissue cultures are now being developed by Aaron Tetteh-(continued on page 2)

Table of Contents

<table>
<thead>
<tr>
<th>Department News</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feature Article</td>
<td>1</td>
</tr>
<tr>
<td>Faculty Research / Grants</td>
<td>2</td>
</tr>
<tr>
<td>Student News</td>
<td>3</td>
</tr>
<tr>
<td>Contact Us</td>
<td>4</td>
</tr>
</tbody>
</table>
Plant Genetics (cont. from page 1)

Asare. Aaron has a master’s degree in plant tissue culture from the University of Ghana, Legon, and is employed to lecture in Botany at UCC.

Isaac obtained a master’s degree from the University of the West Indies, St. Augustine, before coming to Eastern, and recently has been working on his Ph.D. at the University of Wales, Aberystwyth, United Kingdom. He is currently studying sorghum physiology and genetics sponsored through a Commonwealth University Staff Development Scholarship.

Farmers harvest sorghum grains for food and other above-ground parts as fodder or fuel. The challenge for farmers is to grow plants that use less water to produce greater crop yields, especially when rainfall is inadequate – a frequent occurrence in sorghum-growing regions in Ghana. A gene that maintains leaf greenness may prove a great boon to farming and production. Isaac’s work focuses on characterizing this “stay-green” trait which enables cultivars to maintain functional green upper leaves. This allows them to continue photosynthesizing and filling their grain normally under limited soil moisture conditions with no loss in grain yield compared with their senescent (“go-brown”) relatives, which lose their green pigment quickly and die. The trait also confers charcoal rot resistance on the plants and prevents lodging. Isaac is seeking to identify how the trait functions physiologically in sorghum, investigate the biochemical basis of the trait, and identify quantitative trait loci (QTL) associated with the trait. The objective in the long run is to use marker-assisted-selection (MAS) for the trait to improve yield in drought-prone geographical locations as part of the struggle to feed over 500 million people who depend on sorghum for food.

Isaac will return to Ghana soon to continue developing cassava better suited for the Ghanaian farmer as well as sorghum for food and feed. ♦

Thanks to Isaac Galyuon, Don Lightfoot, and Jessilyn Matthias for their contributions to this article.

Faculty Professional Leave

Karen Carlberg, Professor of Biology, is on a year-long sabbatical writing a textbook on women’s biology that will be the basis for teaching the course Biology of Women. The book Carlberg had been using in the course didn’t meet her needs. Besides providing a more suitable resource for herself and students, Carlberg is hoping to market the textbook nationwide. She currently has six of the planned fifteen chapters completed on topics including reproductive organs and hormones, pregnancy, menopause, osteoporosis, and relationships between reproduction and body weight, exercise, and stress.

Carlberg has enjoyed having time to read and do research. Recent studies on pheromones and their relevance to human biology have piqued her interest. In addition to learning more, Carlberg finds satisfaction in organizing the information and putting it in a format people will understand.

Carlberg plans to finish most of the text by mid-June when she is scheduled to teach the course.* The goal is to have the text completed by the beginning of Fall quarter. Biology of Women will be taught again Spring quarter 2006. ♦

[Biol / WMST 318, Mondays 6-9:10 p.m., June 20-August 12, EWU Spokane Center (cross-listed with Women’s Studies)]

Faculty Grant

Prakash Bhuta, Professor of Biology, received a Hewlett-Packard Technology for Teaching Grant last year to help Molecular Biology students learn Bioinformatics using a TabletPC. EWU was one of 197 schools nationwide to receive an award and was the only higher education institution in the state of Washington. Bhuta’s grant totaled $69,613, with over $62,000 in hardware/software (including 21 TabletPCs, docking station, printer, LCD projector, digital camera) and $7,500 in faculty support for project integration. Co-primary investigators on the project are Margaret O’Connell, Professor of Biology; John Shields, Scientific Instructional Technician II; and Jeff Corkill, Professor of Chemistry & Biochemistry. EWU’s Teaching & Learning Center has provided technical assistance in addition to one year free support offered by Hewlett-Packard. This grant will help students learn how to access relevant information on nucleic acid and protein structures thus becoming more familiar with real world applications.
MESA Students Visit EWU

On January 26, approximately 100 MESA students spent the morning learning about stream ecology. MESA is an enrichment program for underrepresented 7th to 10th graders in science, math, and engineering. Heather McKeen, Senior Associate Faculty, facilitated the Biology portion of their visit to EWU which also included presentations by the Physics and Chemistry Departments.

The stream ecology lesson had five stations with specimens representing Scrapers, Photosynthesizers, Predators, Collectors, and Shredders. Students observed the specimens which required using microscopes, then were asked to draw the organisms in the appropriate place on a cross-sectional view of a stream. Next they made a food web with the organisms to show relationships. Lastly they completed a trophic pyramid that relates Producers to Primary, Secondary, and Tertiary Consumers.

Helping McKeen with the Biology portion were John Shields, Scientific Instructional Technician II; Pat Alberts, Megan Sagen, and Krystal Stephens, Biology majors; Melissa Barrett, Pre-Nursing major; and Dan Estock, Natural Science major.

Two of the teachers accompanying the MESA students were EWU alumni: Jamie (Erickson) Smith, BAE, BS (Biology), 2001/02, who now teaches at Sacajawea Middle School; and Mark Egger, BAE, BAB (Elem Reading, Marketing), 2003, who teaches at Chase Middle School. All the teachers and MESA Director Terrie Scott were very pleased with the practical application of science the students experienced.

CALL FOR ALUMNI AWARD NOMINEES
Nominations are being accepted until March 1 for Distinguished Alumnus Award, Exceptional Service Award, and Alumnus Achievement Award. Visit www.ewu.edu/alumni and click on “Alumni Awards” for information and forms.

Winter 2005 Hollister-Stier Textbook Awards

Recipients of the Winter Textbook Awards were:

Jennifer Baldwin-Bonney
Christopher Kirkpatrick
Venus Smith
Emmanuel Udasco

Congratulations to all ... and thank you to Hollister-Stier for making these awards possible!
Blast From The Past

Some Biology Department faculty have been at EWU for a while. This picture was taken about 1974. How many people can you identify? How many are still teaching at EWU?

Tune in next issue for answers!

Contact Us

*Biology News* is a quarterly publication of the Eastern Washington University Department of Biology. To contribute items of interest – news, features, alumni updates – please contact:

Sue Murphy, Operations Manager
EWU Biology Department
SCI 258
Cheney, WA 99004
PH: (509) 359-6809
FAX: (509) 359-6867
sue.murphy@mail.ewu.edu

Visit us on the web at [http://www.biology.ewu.edu/biosubsite/foldfile/depart/newsletter/bionews.htm](http://www.biology.ewu.edu/biosubsite/foldfile/depart/newsletter/bionews.htm)