



Department News

Middle & High School Students Visit EWU

WVHS: On January 16, **John Shields**, instructional & classroom support technician 3, led 22 West Valley High School students in a stream ecology exercise and a tour of the Anatomy & Physiology Lab.

MESA: Eighteen biology and elementary education majors took 136 middle school students in the MESA (Math, Engineering & Science Achievement) Program through ecology and anatomy & physiology activities on February 18. Leading the sessions were **Shannon Anderson, Shawna Brady, Levi Bridges, Jake Dorwin, Jessica Fasoli, Stephen Flanagan, Daniela Gomez, Anne Kizerian, Melissa Michaels, David Moser, Lauren O’Friel, Kayla Parker, Jennifer Romo, Michael Shepherd, Lindsee Sugano, Emily Walkeman, Brittney Wilson,** and **Kimberly Woodford.**

Lightfoot Set for DC Panel

Don Lightfoot, associate professor of biology (retired), will participate on a review panel, Fish, Agriculture & Bio-Resources. Part of the National Science Foundation’s Partnerships for Innovation Program, the panel takes place in Washington, DC, March 30-31.

Faculty Grants

Jim Hallett, adjunct professor of biology, received a UCUT (Upper Columbia United Tribes) grant for a wildlife monitoring and evaluation program.

Allan Scholz, professor of biology, has renewed a Spokane Tribe grant for covering expenses to attend fisheries meetings.

Happy Birthday, Charles!



Charles Darwin, whose theory of natural selection still spawns debate, would have turned 200 years old on February 12th. His landmark book, *On The Origin of Species*, celebrates its 150th

anniversary in 2009. To mark these events, the EWU Biology Department joined tens of thousands of revelers in more than 45 countries for a global celebration of Darwin Day. While this year marks Eastern’s first participation in the event, according to the Darwin Day Celebration web site (<http://www.darwinday.org>) this annual observance helps us “... recognize the diversity among us, while celebrating our common humanity and the universal understanding we share.”

For our festivities, we brought in Dr. Carol Anelli, associate professor of entomology and an Honors College faculty fellow at Washington State University, to present a seminar titled, “Evolution Matters! Historical and Current Contexts in Darwin’s Dual Anniversary Year.” This was followed by a cake decorating contest in which participants were to recreate some aspect related to Darwin or evolution.

Dr. Anelli’s presentation provided background on Darwin’s life, starting with his birth into a

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Darwin Day (cont. from page 1)

wealthy family in 1809. Pressured to follow in his father's and grandfather's footsteps, at age 16 Darwin enrolled at Edinburgh University to become a physician. Neglecting his studies in medicine, Darwin followed his love of nature, and under the tutelage of a zoology professor and the curator of a local museum, Charles became a self-trained naturalist. He learned anatomy, botany, taxidermy, and developed his abilities in observation.

Recognizing he was not cut out to be a doctor, Darwin transferred to Cambridge University at age 19 with thoughts of becoming a clergyman. Entomology was a primary focus of his continuing study in natural history. After graduating in 1831 (at age 22), Darwin was hired as an unpaid naturalist on a worldwide surveying trip aboard the HMS Beagle.

The 5-year voyage allowed him to apply his observation skills to a variety of settings. Most significant is what Darwin observed in the tropical regions of South America. He noted a succession of types of species as he moved through areas that reflected different geologic times and geographic variations. He also noticed that island species closely resembled mainland species, but were distinctly different.

When he returned to England, Darwin married his devoutly-religious first cousin, Emma. He had written a book on his observations, but did not attempt to have it published until 1859 – nearly 23 years after he returned from his journey. It's unknown why it took so long to publish *On the Origin of Species*, although he had worked on a taxonomic monograph of barnacles for eight years. Speculation also exists that he felt his theories would not be accepted by the religious community and needed more evidence.

In addition to his observations of differences within species during the long voyage, Darwin also studied mutations resulting from breeding experiments with domestic animals and plants. He was able to consider all this information in trying to determine the specific mechanism that permitted animals and plants to change over time. Eventually he realized that the mechanism underlying the process of evolution was that of *natural selection*. This theory indicates that favorable traits that aid in survival become more common in successive generations. Unfavorable survival traits become less common and eventually become extinct. Over

time, this process results in adaptations that create specialized organisms for particular ecological niches and may even result in the emergence of new species.

Even today, some people still doubt the validity of Darwin's theory of natural selection and evolution. Despite an astonishing array of modern evidence, including comparative studies in anatomy, genetics, and molecular biology, some people think that acceptance of evolution precludes religious belief. On the contrary, a large percentage of not only scientists, but also religious leaders, support the coexistence of evolution and religion. Darwin's contribution to modern concepts of evolution is cause for celebration.

**"My second life will begin and it shall be as a birthday for the rest of my life."
Charles Darwin (1831)**

In addition to Dr. Anelli's seminar, Eastern's recognition of Darwin's contributions to the world of science continued with a cake decorating contest. And based on the above quote from Darwin when he learned he had been selected as the Beagle's naturalist, he would have approved. Contestants needed to decorate cakes that related to Darwin or evolution. Twenty-five participants created nineteen cakes, ranging from a "Tree of Life" cheese-cake to Darwin's notebooks, the Galapagos Islands, the HMS Beagle (that "brakes for boobies!"), man's emergence, a fossil site, primordial ooze, fish-land animals, a Galapagos tortoise, and an assortment of birthday cakes.

In addition to Carol Anelli, judges were **Lynn Briggs**, College of Arts and Letters, **John Buchanan**, Geology Department, and **Lisa Nappa**, Art Department. **Judd Case**, dean of the College of Science, Health, and Engineering, announced the winners. First place went to **Christine Schucker**, biology major, for her 3-tiered cake with a frosting waterfall, com-



Judd Case & Lynn Briggs
eye a few of the 19 cakes

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Darwin Day (cont. from page 2)

plete with gene pool, and plant and animal life. The second place cake created by **Jessica Bryant**, biology major, showed the Galapagos Islands in a sea of blue at the edge of a globe of the world. **Colin**

Buckingham, biology major, took third place with a cake reflecting the evolution of sea animals into land animals (made from rice krispies). Honorable mention went to **Robin O'Quinn**, assistant professor of biology, for her *Tiktaalik* cake, a transitional form between fish and amphibians.

With judging completed, then came the *arduous* task of devouring the cakes. Approximately 80 revelers enjoyed a selection of cakes – pound, chocolate, cheesecake, white, brownies, spice, German chocolate, and more – festooned with gummy worms, raisins, blueberries, nut rolls, chocolate chips, nuts, banana chips, mint leaves, grapes, and other clever decorations. The event was such a success, look for the 2nd annual Darwin Day Celebration next February. Thanks to Robin O'Quinn for spearheading Darwin's 200th birthday party. Happy Birthday, Charles! ♦



First place –
Christine Schucker

See list of all cake entrants below. Go to <http://www.ewu.edu/x63700.xml> for photos of all cakes and other pictures from this fun event. Thanks to everyone who helped make the event a success, including Jessica Bryant for written contributions for the newsletter. Photography by Sue Murphy. Darwin's portrait (Elliott & Fry, 1881) retrieved from the UK National Portrait Gallery web site <http://www.npg.org.uk>.

Biology Seminars

Winter Seminar Series presentations: Jason McLellan (BS in Biology, 1998) from the Washington Department of Fish and Wildlife spoke about Lake Roosevelt white sturgeon population status and research. Brook Swanson from Gonzaga University presented "Evolution in high-performance biomaterials." Carol Anelli presented for the Darwin Day Celebration (see article, pages 1-3). And **Brian Sardella**, EWU assistant professor of biology, gave a talk on physiological regulation by the Pacific hagfish (*Eptatretus stoutii*); a primitive species thought to be a strict conformer.

Winter Graduate Seminar: Students presenting:
Oral Presentations

Dan Fisher, Drug resistance genes in wastewater bacterial isolates.

Danielle Klinzing, Water quality of Cow Creek.

Dava Lomax, Effects of prolonged gonadotropin releasing hormone (GnRH).

Claudine Richardson-Frazer, Control and prevention of *Staphylococcus epidermidis* and VRE growth.

Kelly Tougas, Plasmid-derived antibiotic resistant genes.

Poster Presentations

Michael Baker, Stability of cryoprotectants in a vitrified state.

Philip Baker, Chill sensitivity of *Drosophila melanogaster* embryo.

John Getz, Mycorrhizal riparian plants in Cow Creek restoration project.

Yohan Kim, New method for culture of live-thin sections of bovine ovaries.

Mukti Ryan, Bacterial communities at different salinities using 16S rRNA analysis.

Current Schedule for Spring Seminar Series:

April 10 Marianne Poxleitner, Gonzaga University

April 24 Nancy Staub, Gonzaga University

May 8 Matthew Horning, U.S. Forest Service

(All are at 2:00 p.m. in Science Bldg. Room 137.) ♦

Darwin Day Cake Decoration Participants

Lending their creative genius to the Darwin Day Celebration by decorating a cake were:

Jessi Allen
Justin Bastow
Becky Brown
Jessica Bryant
Colin Buckingham
Andrea Castillo
Cynthia Dukai
Matt Fassel
David French

Carissa Gusman
Joanna Joyner-Matos
Ben Knox
Luis Matos
Heather McKean
Camille McNeely
Mike Milanowski
Peggy O'Connell
Robin O'Quinn

Nerissa Pettit
Cleome Rowe
Christine Schucker
Alex Schulz
Heidi Stevenson
Simone Woods
Jacob Zarate
... apologies if any participants not recognized! Thanks ALL!

Hollister-Stier Textbook Assistance Awards

The following students earned textbook awards for Winter quarter:

Darlene Brumley
Alicia Caldejon
Dustin Cousins
Thania Montero-Abreu

Congratulations! Thank you, Hollister-Stier, for your generosity in helping our students.

Watch for the Spring 2009 *Biology News* ... Faculty research, graduate fellows, seminar presentations, and more.

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:

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