



# MOUNTAIN LAKE ECHOES

MOUNTAIN LAKE BIOLOGICAL STATION

 UNIVERSITY of VIRGINIA

Spring 2012

## New Station Manager

Jaime Jones

*Anyone who has visited Mountain Lake knows it is the Station Manager who keeps the place ticking. In April MLBS hired Jaime Jones to the Manager post. Jaime is a fellow biologist who is just finishing her M.S. degree at SUNY. She brings a wealth of skill and experience to the job. Please help us welcome her and make her feel at home! Jaime, in her own words.....*

I am an MS candidate at the State University of New York College of Environmental Science and Forestry (ESF) studying plant community ecology

in constructed and natural vernal pools. These seasonal wetlands are best known for their role in amphibian life cycles, but they also contribute to plant diversity at a landscape scale by supporting wetland plant communities within a terrestrial matrix. My work seeks to quantify the plant diversity and composition of vernal pools, characterize the influence of environmental factors on pool plant communities, and compare constructed pools to natural pools.

Other interests include educational outreach and environmental justice. As part of the ESF Outreach Office, I worked to connect K-12 students, educators, professionals, and the community with meaningful programming led by ESF and its partners. One of my primary roles was coordinating a collaborative green infrastructure workforce training program tailored for unemployed refugees.

I am a native of Roanoke, VA, and hold a BS in biology from the University of North Carolina at Asheville. As a volunteer, I have retrained racehorses; taught ESL classes; supported community development in Honduras; and contributed to home improvement efforts in the Appalachian region.

I enjoy horseback riding, backpacking, mountain biking, running, swimming, and anything that gets me out in the woods or on a river. I'm excited to be a part of the MLBS team and look forward to meeting everyone! ♦



## Upcoming

### Dates

- COURSE APPLICATIONS ACCEPTED UNTIL CLASSES ARE FILLED
- JULY 4TH FIELD DAY
- JULY 19: ANNUAL WALTON LECTURE. FRED JANZEN—CLIMATE CHANGE AND TEMPERATURE-DEPENDENT SEX DETERMINATION IN TURTLES

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## From the Director

Butch Brodie

Summer season is just around the corner, and the usual slate of spring preparations and changes are going on at the Station. Tom is working frantically to finish up a huge number of offseason activities, from repairs to the Lewis lobby and the herbarium room, to seeding some treacherous mud patches. We're excited to have these chronic issues dealt with, and with Tom's typical high-quality attention.

Some of the biggest improvements this season, that will hopefully go unnoticed by most, involve the water system. Over the last year or two, the drinking water system has been plagued by lightning strikes, a failed pump, unidentifiable leaks, and a host of other demonic intrusions. Last summer it became apparent that the groundwater in the well was not recharging at a fast enough rate. After the earthquake last fall, large cracks were noticed in the storage tanks on the spring road so that even a working pump couldn't keep them filled. After a number of alternative attempts at solving what would be a certain water crisis this summer, Facilities Management elected to drill a new well. Well 3



is located just beyond the parking area in the woods and is to be connected to the old well so that sufficient water flow can be achieved to meet Station needs. FM is also lining the storage tanks so that the water we pump will be usable. It's been a big job, and one that cost much more than was budgeted, so we are grateful to our FM colleagues for seeing this through.

Even with the new well, we expect to be working right at capacity, so we will appreciate everyone's attention to water conservation practices. We expect to avoid any anti-social measures like limited showers, but a little cognizance of our limited resource in what is shaping up to be a dry summer will be helpful.

The other big news of the spring is the arrival of our new Station Manager, Jaime Jones. We're thrilled to have convinced her to join our team. Jaime brings a blend of training in field biology, education, outreach, and outdoor recreation to the post. She started learning on the job the second week of April, so be sure to lend a hand and a welcome when you meet her. ♦

## Student Corner

Alo Gray

With a layout that mirrors Thomas Jefferson's Academical Village, it's easy to see that his vision for learning is not just alive and well but flourishing at MLBS. While a lot of my friends were suffering through a blisteringly hot Charlottesville summer, I was living and breathing biology with fellow undergraduates, graduate students, professors, and PhDs from all over on the amazingly temperate Salt Pond Mountain. A normal day could be anything

from studying the biodiversity of flora along different parts of the Appalachian Trail with Prof. Zack Murrell of Appalachian State University; to wading through a pond with my toes in the mud in hopes of capturing tadpoles to examine for signs of a fungal infection for Duke University's Prof. Rytas Vilgalys' class; to planning, executing, writing, and presenting studies of my own design under the guidance of Georgia Southern University's



**Alo , top right, is back this summer taking Biology of Sex, Ethnobotany and Field Methods in Stream Ecology.**

Prof. Lorne Wolfe. Biology at Mountain Lake isn't just something you learn in class; it's a way of life. ♦

## Research Spotlight—Wood Roaches

Christine Nalepa/Melissa Wender



**A family group of wood roaches in the decaying wood they occupy.**

Occasionally you will see researcher Christine Nalepa lugging heavy boxes into Lewis Hall. What they contain is the subsocial wood feeding cockroach *Cryptocercus punctulatus*. Wood roaches are the best living model of a termite ancestor, as termites are

now considered a derived lineage within cockroaches, with *Cryptocercus* as sister group. All termites, then, are cockroaches (even though no one likes to admit it!).

Christine is currently studying paternity in wood

roach families, work that is based on Kristine Grayson's findings in 2007. Kristine was finding wood roaches in pitfall traps that she had set out for collecting salamanders.

Some of the adult *Cryptocercus* females found in these traps were already mated, which was a surprise given that pairs of wood roaches were thought to be monogamous.

The current field study at MLBS consists of a variety

of experimental manipulations related to paternity, with the resultant families preserved in alcohol and shipped to a cooperator in Japan for molecular analysis. The insect has an extended life history so it is by necessity a long term study; at any given time there are several stages of several experiments going at once. ♦

*Nalepa, C.A. and K.L. Grayson. 2011. Surface activity of the xylophagous cockroach *Cryptocercus punctulatus* (Dictyoptera: Cryptocercidae) based on collections from pitfall traps. Ann. Entomol. Soc. Amer. 104(2): 364-368.*

## MLBS Early Career Fellowship

Butch Brodie

MLBS is pleased to announce the 2012 Early Career Fellowship. These awards are intended to bring PhD level researchers to the station to explore new projects and collect preliminary data that could support future proposals. Our hope is that this program will provide researchers at the early stages of their post-graduate careers an opportunity to develop long-term projects at the Station. The 2012 recipients include:

**Heather Bleakley**, Stonehill College – Indirect genetic effects and multilevel selection in willow leaf beetles

**Sandra Cooke**, Duke University – Fluctuating lake levels and their effects on UV transparency and zooplankton in Mountain Lake

**Elizabeth Ostrowski**, University of Houston – Population genetics of *Dictyostelium discoideum* and local adaptation to bacteria communities

**Sigrid Smith**, University of Michigan – Herbaceous plant community structure in natural and artificial wetlands

**Danielle Whittaker**, Michigan State University – Evaluating the bacterial symbiont hypothesis of chemical communication in birds

**Katherine Winsett**, University of Southern Indiana – Characterization of the inter- and intraspecific diversity of Myxomycetes ♦



## Mountain Lake Biological Station contact info

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**Melissa Wender, Office Manager**  
**Jaime Jones, Station Manager**  
**Tom Mc Namara, Facilities  
Manager**



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Your gift promotes learning, education, scholarships, and research, and has the potential not only to impact students' lives but to change our world. Help support our students and researchers today by making a donation on-line at [mlbs.org](http://mlbs.org).

## SUMMER 2012 COURSES

**There is still time  
to register for  
Summer Sessions  
II and III!**

### SESSION I, May 14—June 8

#### **PLANT CONSERVATION AND DIVERSITY**

(BIOL 4510/7510, Sec 1—4 cr)  
Zack Murrell, Appalachian State  
University

#### **FIELD BIOLOGY OF SEX**

(BIOL 3510, Sec 1—4 cr)  
Kristal Cain, Indiana University



### SESSION II, June 11—July 6

#### **BIOLOGY AND CONSERVA- TION OF FISHES**

(BIOL 4510/7510, Sec 2—4 cr)  
Dave Neely & Anna George, Tennessee  
Aquarium Conservation Institute

#### **FIELD ETHNOBOTANY**

(BIOL 4510, /7510 Sec 3—4 cr) Lytton Mus-  
selman, Old Dominion University



### SESSION III, July 9—Aug 3

#### **SCULPTURE AND EARTH**

(ARTS 2580, 3cr) William Bennett, Uni-  
versity of Virginia.

**Note:** Class Runs July 9-20

#### **DRAWING I and II—The Land- scape, Small and Large**

(ARTS 1610/2620—3cr) Megan Marlatt,  
University of Virginia.

**Note:** Class Runs July 23—Aug 3

#### **FIELD METHODS in STREAM**

**ECOLOGY** (BIOL 4510/7510 Sec 4—  
3cr) Christine May & Scott Eaton, James  
Madison University. *Waitlist.*