

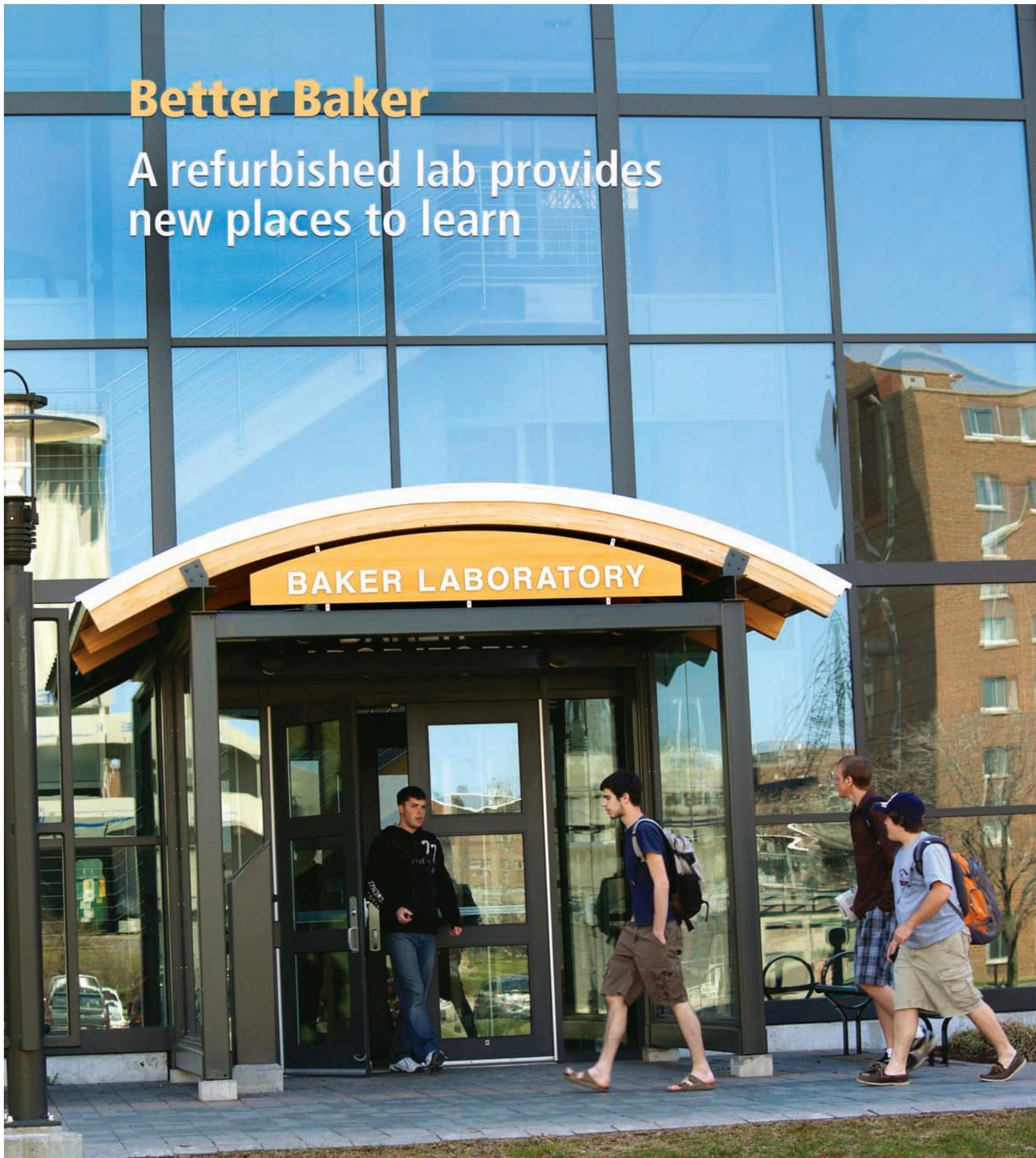
# InsideESF

SUMMER 2009

The Magazine of the SUNY College of Environmental Science and Forestry

## Better Baker

A refurbished lab provides  
new places to learn

The image shows the exterior of the Baker Laboratory building. The entrance features a wooden arched canopy with the words "BAKER LABORATORY" in white capital letters on a dark background. Below the canopy are glass double doors. Three students are walking past the entrance: one in a black hoodie and jeans, another in a blue t-shirt and brown shorts with a backpack, and a third in a light blue t-shirt and khaki shorts with a backpack. The building's facade is composed of large glass panels reflecting the sky and surrounding buildings.

BAKER LABORATORY



A day isn't enough to celebrate the earth at ESF where students turned Earth Day into Earth Week. This year's events included a barbecue on the Quad and a dunk tank. Students tried their hand at engineering structures out of pasta and marshmallows, played Frisbee and took a moment to relax in the sunshine.



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A master plan for the future of ESF pays tribute to the College's past.

## 20 It's a gas, gas, gas

Dr. David Johnson proves that one person's garbage is another person's methane.



A display of 350 pinwheels sparkled in front of Bray Hall as part of ESF's Earth Week celebration in April. Student Julie Michelle Houde ES '10, who organized the display with the help of several other students, said she based the project on author/environmentalist Bill McKibben's 350.org, which presents 350 as the amount of CO<sub>2</sub> (350 parts per million) that can safely exist in the earth's atmosphere. "I took the time to educate every student and faculty member because I felt it was an effective and powerful message that would inspire everyone in a creative way," Houde said. "I hope people take away from this that we need to advocate for climate legislation and any other lesson they may perceive from the installation."

## InsideESF

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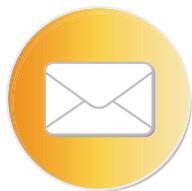
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## LETTERS TO THE EDITOR

## Crows and gulls CAN get along

To the Editor:

It was a thrill to see the two professors I was most influenced by in the "Celluloid Science" article in the Fall 2008 issue. Dr. Guy Baldassarre and Dr. William Shields were great professors and fun guys to hang out with. I can attribute many of my career accomplishments to the knowledge they passed down, especially Dr. Shields' decree to question everything about animal behavior.

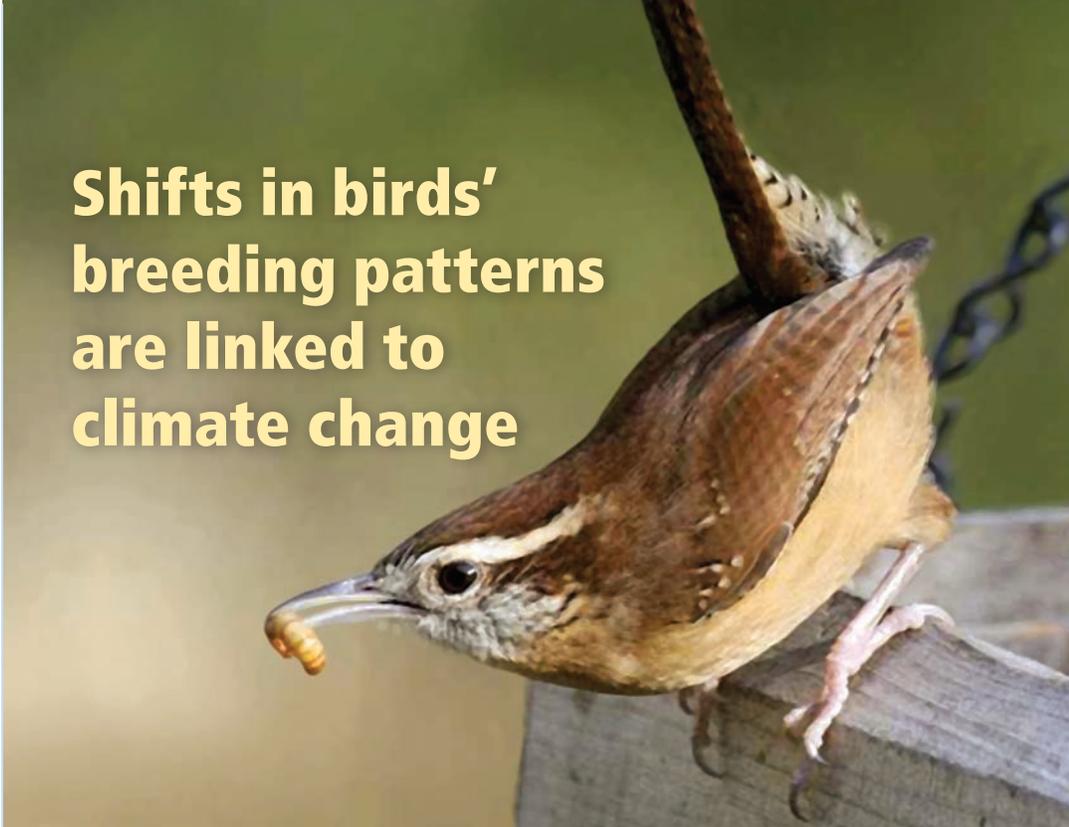
That is what brings me to this letter. After reading the review of Alfred Hitchcock's "The Birds," I came up with some contrary information. My understanding was that the movie was based on an actual event in Santa Cruz, where birds had been exposed to a toxin and became very aggressive. I was unable to find that documented.

What I can contest is the comment that, "You won't see flocks of both species (crows and gulls) lined up on power lines together." I am a recent transplant to the Pacific Northwest and that is, in fact, what you see all the time. The Northwestern crow is typically found along the shoreline where it intermingles with the various gull species regularly.

I enjoyed the article and appreciate the effort to expose the inconsistencies of Hollywood when dealing with nature. Thank you for the fun read and the inspiration to question the experts.

Victor Inera  
Watershed Restoration Coordinator  
Nooksack Indian Tribe  
EFB '91

## Shifts in birds' breeding patterns are linked to climate change



ESF researchers have documented that a variety of North American bird species are extending their breeding ranges to the north, adding to concerns about climate change.

In a study published on the Web site of the journal *Global Change Biology*, the ESF researchers state the change in the birds' breeding ranges "provides compelling evidence that climate change is driving range shifts."

"There are a wide spectrum of changes that are occurring, and those changes are occurring in a relatively short amount of time. We're not talking centuries, we're talking decades," said William Porter, an ESF faculty member and director of the College's Adirondack Ecological Center.

Porter worked on the study with Ph.D. student Benjamin Zuckerberg and AEC staff educator Annie M. Woods. The study was also slated for publication in *Global Change Biology* magazine.

"The most significant finding is that this is the first time in North America that we're showing the repeating pattern that's been shown before in Europe," Woods said. "It's the first time we've been able to replicate those European findings, using the same kind of study."

Focusing on 83 species of birds that have traditionally bred in New York state, the researchers compared data collected in the early 1980s with information gathered between 2000 and 2005. They discovered that many species had extended their range boundaries, some by as much as 40 miles.

"They are indeed moving northward in their range boundaries," Zuckerberg said. "But the real signal came out with some of the northerly species that are more common in Canada and the northern part of the U.S. Their southern range boundaries are actually moving northward as well, at a much faster clip."

Among the species moving north are the Nashville warbler, a little bird with a yellow belly and a loudly musical two-part song, and the pine siskin, a common finch that resembles a sparrow. Both birds have traditionally been seen in Northern New York but are showing significant retractions in their southern range boundaries, Zuckerberg said.

Birds moving north from more southern areas include the red-bellied woodpecker, considered the most common woodpecker in the Southeastern United States, and the Carolina wren, whose "teakettle, teakettle, teakettle" song is surprisingly loud for a bird that weighs less than an ounce.

The study compared data collected during the state Department of Environmental Conservation's Breeding Bird Atlas census, which engaged thousands of citizen volunteers to observe and report the birds they could identify. The first atlas was created between 1980 and 1985; the second was done between 2000 and 2005.

New York was the first state to complete two breeding bird atlases, Zuckerberg said, making it the only state that is able, at this point, to produce this kind of research.



## Events bring children back to nature

ESF's Northern Forest Institute for Conservation Education and Leadership Training (NFI) has taken a lead role in building a statewide effort to reconnect children with nature so they can reap the benefits of experiencing, and learning about, the natural world.

The NFI helped organize a partnership called "Children in Nature, New York," which is sponsoring a slate of events in the Adirondacks and the Capital Region to draw attention to increasing the connection between the state's children and the natural environment.

Events took place in May.

"Playing outdoors does more for children than just let them burn off excess

energy," said Paul Hai, program coordinator at ESF's Adirondack Ecological Center in Newcomb, where the NFI is headquartered. "Researchers are seeing that exposure to nature has a substantive, measurable effect on children's physical, psychological and mental well-being. It has a real effect on their behavior and study skills and their ability to think creatively."

Hai is also one of the 10 members of the national Children and Nature Network's Grassroots Leadership Team.

The roll-out events in May included a Friday evening program in Saratoga Springs, a daytime festival at the Wild Center in Tupper Lake and a Saturday evening program in Lake Placid.

## SUNY honors ESF student excellence

Two ESF students were honored with the Chancellor's Award for Student Excellence during an April ceremony in Albany.

**Jorge Barbosa** of New York City and **Jingnan Lu** of Cicero were presented with their awards during a ceremony at the Empire State Convention Center, where they received framed certificates and medallions, which were worn at commencement.

Chancellor Award honorees excel both in academic achievement and in at least one of the following areas: leadership, athletics, community service, creative and performing arts or career achievement.

Barbosa is an environmental and forest biology major. He is president of the ESF Alpha Xi Sigma Honor Society and president and founder of ESF's Nautilus Society. He is the student member of the ESF Board of Trustees, head photographer for the yearbook and a class marshal. He has been on the Dean's List and President's List, is a recipient of the Bristol-Myers Squibb scholarship and is an active member of the Collegiate Science and Technology Entry Program.

Lu is a chemistry major. She has been on the Dean's List and President's List during her academic career at ESF. She received the SUNY-ESF Foundation Award, the Chemistry Citizen's Award, and the John A. Meyer Award for Environmental Chemistry. She is the vice president of the ESF Alchemist Club, a member of Alpha Xi Sigma, the SU Women's Choir, MIT Converge and P&G Research and Development for Undergraduates.



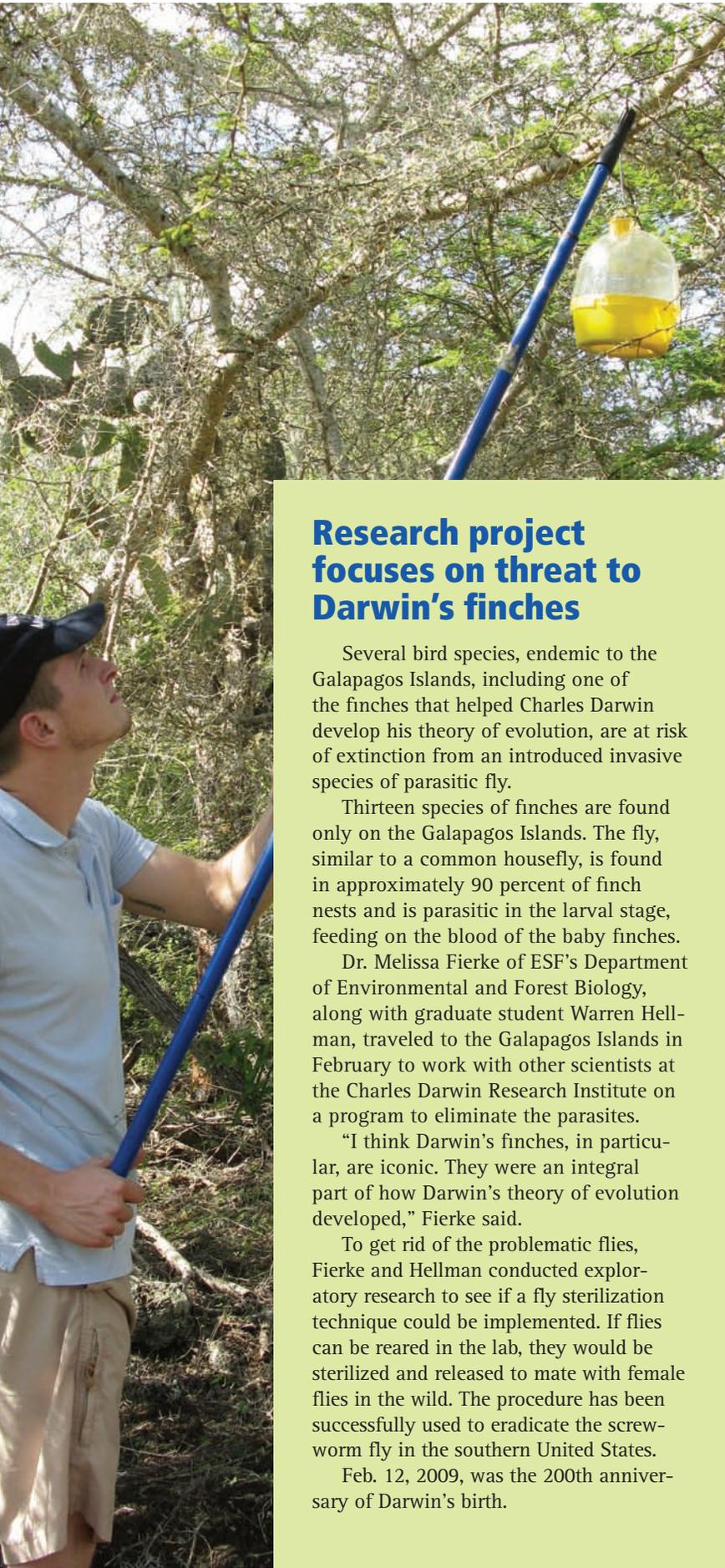
## Foundation Board honors Tiss for teaching excellence

Kenneth J. Tiss, instructor in the Department of Construction Management and Wood Products Engineering, received the 2009 Foundation Award for Exceptional Achievement in Teaching.

Tiss received the award during a meeting of the College Foundation board of directors in May. During the award presentation, Tiss was cited for his dedication to students, his innovation in curriculum development, and his role as an outstanding student advisor.

The Foundation Award was established in 1999 to celebrate the accomplishments of ESF faculty and staff members who excel at the art of teaching. Recipients are nominated by department chairs and selected by a campuswide committee that reports to the provost. The Foundation provides winners with a personalized recognition plaque and a \$1,000 cash award. A permanent plaque displayed in Bray Hall Rotunda lists the names of all recipients.





## Research project focuses on threat to Darwin's finches

Several bird species, endemic to the Galapagos Islands, including one of the finches that helped Charles Darwin develop his theory of evolution, are at risk of extinction from an introduced invasive species of parasitic fly.

Thirteen species of finches are found only on the Galapagos Islands. The fly, similar to a common housefly, is found in approximately 90 percent of finch nests and is parasitic in the larval stage, feeding on the blood of the baby finches.

Dr. Melissa Fierke of ESF's Department of Environmental and Forest Biology, along with graduate student Warren Hellman, traveled to the Galapagos Islands in February to work with other scientists at the Charles Darwin Research Institute on a program to eliminate the parasites.

"I think Darwin's finches, in particular, are iconic. They were an integral part of how Darwin's theory of evolution developed," Fierke said.

To get rid of the problematic flies, Fierke and Hellman conducted exploratory research to see if a fly sterilization technique could be implemented. If flies can be reared in the lab, they would be sterilized and released to mate with female flies in the wild. The procedure has been successfully used to eradicate the screw-worm fly in the southern United States.

Feb. 12, 2009, was the 200th anniversary of Darwin's birth.

## ESF students pick Mighty Oaks for sports identity

The teams that compete as part of ESF's growing athletic program will be known as the Mighty Oaks, an identity chosen by more than 800 current and incoming students who participated in an online poll.

"We are developing an intercollegiate sports program, but as our athletes have taken the field they haven't had an official team name or mascot to call their own," said Robert C. French, ESF's vice president for enrollment management and marketing.

Mighty Oaks won by a wide margin, with many students noting they were looking for a unique name that seemed to fit the College.

ESF has teams that participate in golf and men's and women's soccer. Men's and women's cross-country teams will compete this fall. ESF's oldest intercollegiate team, the Woodsmen's Team, was founded in 1912 and continues to compete in traditional timber sports.



## SUNY-ESF employees honored by chancellor

Three employees of the SUNY College of Environmental Science and Forestry (ESF) were honored by Chancellor Dr. Nancy L. Zimpher for their service to the State University of New York.

**Lawrence Rathman**, a maintenance supervisor at ESF's Ranger School in Wanakena and Cranberry Lake Biological Station (CLBS), was awarded the inaugural SUNY Chancellor's Award for Excellence in Classified Service. The award is given to University Classified Service staff who have consistently demonstrated superlative performance within and beyond their position.

**Dr. Lianjun Zhang** of the Department of Forest and Natural Resources Management received the Chancellor's Award for Excellence in Faculty Service. The award recognizes the consistently superior service contributions of teaching faculty.

**William J. Nicholson** was honored with the Chancellor's Award for Excellence in Professional Service. The award recognizes consistently superior professional achievement within and beyond the position and those who serve as professional role models for a university system in the pursuit of excellence.

Photo by Melissa Fierke



Dr. Theodore Endreny led a trip to Honduras during spring break '09. The 15 ERFEG students established a nursery for the Honduran Emerald, a species of hummingbird found only in Honduras, and its key habitat of the Very Dry Tropical Forest. The group also took donated clothes to the Miami, Honduras, fishing village in the buffer zone of the Punta Sal National Park. The community is typically accessible by an unpaved road, except during hurricane season when the area is often flooded, and many families are forced to relocate and rebuild the next year.



### Dr. Gregory Boyer honored as ESF exemplary researcher

ESF biochemist Dr. Gregory Boyer has been honored with the ESF Exemplary Researcher Award. The award recognizes a current researcher who has exemplary research activity, an impressive publication record and active graduate/undergraduate student research programs.

Boyer is ESF's principal investigator on a \$3 million, five-year study to determine the best way to detect – and respond to – toxic algae blooms. He was among the researchers who went into high gear in 1999 in an effort to determine if the problem was unique to Lake Champlain.

Boyer has been involved with an industry-based partnership to develop near-real-time water quality monitoring systems. It is envisioned that the collaboration with local firms will provide the basis for new economic growth in the CNY region.

His research also includes restoration of Great Lakes fish communities and implementation of the Great Lakes observing systems. Boyer has been an author on more than 100 peer-reviewed articles in journals including *Journal of Great Lakes Research*, *Science and Hydrobiology*, with 20 new publications since 2004.

Boyer is a professor in ESF's Department of Chemistry.



**Commencement 2009: ESF conferred more than 400 degrees during joint Commencement exercises with Syracuse University in the Carrier Dome May 10. ESF's graduates included 342 students who earned bachelor's degrees, 55 who earned master's degrees and eight who earned doctoral degrees. The students joined 3,000 of their counterparts from Syracuse University for the ceremony, highlighted by an address from U.S. Vice President Joe Biden, who attended law school at Syracuse University in the 1960s. For more stories and photos, see ESF Online at [www.esf.edu/insideesf/2009/summer/](http://www.esf.edu/insideesf/2009/summer/)**

## ESF wins widespread praise

ESF has been recognized in a number of national publications for its work in a variety of areas, including technology transfer, community service and environmental action:

- The College is listed in the 2008 AUTM Better World Report Part Two, which highlights colleges that have successfully transferred academic research into real-world applications. The report is published by the Association of University Technology Managers.

ESF is listed twice among the 100 innovators in the report and is one of only two SUNY schools included.

- The College was named one of the top 440 colleges by Peterson's in its Competitive Colleges 2008 guide. Peterson's selects schools based on

the competitiveness in the admissions environment.

- ESF was named one of Kaplan/Newsweek's 350 most interesting colleges in the 2009 edition of "How to Get Into College." ESF was also listed as a top school for environmental science majors.

- The National Wildlife Federation gave ESF high marks for environmental action in "Campus Environment 2008: A National Report Card on Sustainability and Higher Education."

ESF was among the colleges and universities described as "exemplary and committed" in the category of Exemplary Schools for Students Taking a Course on Ecology or Sustainability. The College was also listed as exemplary in the category

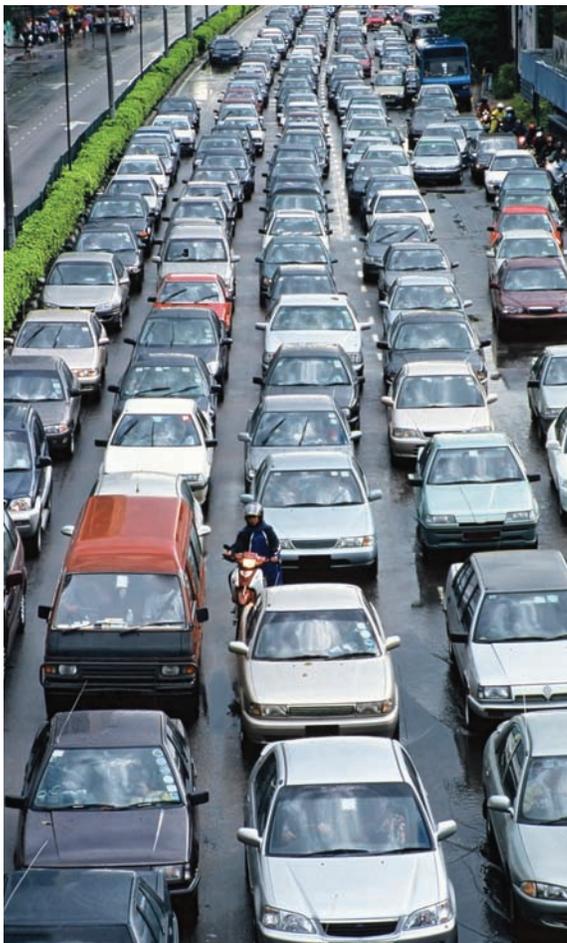
of Environmental or Sustainability Goal Setting.

- The College's community service efforts were recognized when ESF was named to the 2008 President's Higher Education Community Service Honor Roll with distinction.

This marks the third year ESF has been named to the Honor Roll and the first year it has been named "with distinction." ESF was the only SUNY school to be included on the list.

- ESF's commitment to community service also earned the College a feature in the Guide to Service-Learning Colleges & Universities.

A service-learning project completed by the Department of Landscape Architecture was highlighted in the guide.



## Overpopulation leads Top 10 list of issues, ESF faculty says

Overpopulation is the world's top environmental issue, followed closely by climate change and the need to develop renewable energy resources to replace fossil fuels, according to a survey of the ESF faculty.

Just in time for Earth Day, the faculty was asked to help prioritize the planet's most pressing environmental problems. Overpopulation topped the list, with several professors pointing out its ties to other problems that rank high.

"Overpopulation is the only problem," said Dr. Charles A. Hall, a systems ecologist. "If we had 100 million people on Earth, or better 10 million, no others would be a problem." (Current estimates put the planet's population at more than 6 billion.)

Dr. Allan P. Drew, a forest ecologist, put it this way: "Overpopulation means that we are putting more carbon dioxide into the atmosphere than we should, just because more people are doing it and this is

related to overconsumption by people in general, especially in the developed world."

"But, whether developed or developing," said Dr. Susan Senecah, who teaches the history of the American environmental movement, "everyone is encouraged to want and perceive that they need to consume beyond the planet's ability to provide."

The faculty pointed to climate change as the second most-pressing issue, with the need to develop renewable energy resources to replace fossil fuels coming in third.

Rounding out the top 10 issues on the ESF list are overconsumption, the need for more sustainable practices worldwide, the growing need for energy conservation, the need for humans to see themselves as part of the global ecosystem, overall carbon dioxide emissions, the need to develop ways to produce consumer products from renewable resources, and dwindling freshwater resources.

# Their Classroom FLOATS

4 ESF grads among members  
of Hudson River sloop group

by Tracy Kinne

**W**hen Jen Rubbo organized a community cleanup of the Fall Kill Creek through Poughkeepsie, she wanted to pull more from the water than trash.

She wanted a work of art.

Rubbo, EFB '97, is Fall Kill Watershed coordinator for Hudson River Sloop Clearwater, a nonprofit organization dedicated to protecting the river and its tributaries and to educating children, in particular, about the resource. Rubbo secured a grant from the Dutchess County Arts Council to hire a local artist to create a sculpture from pieces of glass pulled from the creek, which is a tributary of the Hudson River. The expressionistic cube will be installed outside the Mid-Hudson Children's Museum in the city at the mouth of the Fall Kill.

Rubbo said she was surprised and pleased by the widespread enthusiasm for the April cleanup, which drew 50 volunteers. "People left excited and happy, and they wanted to do it again," she recalled.

But she wanted more than a cleanup out of the project. "I wanted not only to get people on the creek to help clean it up, but to take something from the creek that would be educational," she said.

Rubbo is among four ESF graduates putting their talents to work at Clearwater. Joining her are Christine Kane, FNRM '82, who oversees fundraising as development director; Katy Dunlap, ES '97, Hudson River Watershed Alliance coordinator; and Dave Conover, EFB '80, education director.

Rubbo, a native of the Hudson Valley, received her bachelor's degree from ESF before earning her master's in ecology from Penn State.

Dunlap, whose ESF concentration was in policy and management, also has a law degree from Vermont Law School and a master's degree in environmental law. She is admitted to practice law in New York.

After graduating from ESF, Conover earned his master's degree in environmental studies from Antioch University. He also has his teaching certification.

Rubbo credits her time at ESF with making her want to become an educator. "SUNY-ESF had a huge influence on me. It was really the foundation for everything I've done since then," she said in a phone interview from her home in the Hudson Valley.

Rubbo spent two years researching in the wetlands of Louisiana before coming to Clearwater in 2006.

"Everywhere I go, I meet someone from ESF," she said. "It's amazing. Once they graduate from ESF, they're all over the world."

Clearwater is grateful to have ESF-educated professionals among its staff of 17 full-time, office-based employees and nine full-time employees on its teaching sloop, said Tom Staudter, communications director for the organization.

"Everyone knows SUNY-ESF — it's a tremendous breeding ground for environmental leaders. It always has been," Staudter said.

"The stuff that Katy and Jen are doing is amazing. The educational program at Clearwater is the model for onboard and shoreline education across the country," he said.

"The two big departments are led by ESF grads," he continued. "That's a lot of our environmental action and development."

Kane said ESF taught her to research and analyze data and communicate her findings to a broad audience.

"We had to learn to write well," she said. "When you're writing grants, you have to explain what it is you want to do." Conover said ESF's contribution to his professional development has been invaluable. "I use it all the time," he said. "ESF was a great span of time in my life which really let me focus on my interests." Conover came to Clearwater in 1991 as an educator aboard the organization's boat, a 106-foot-long tall ship that is a replica of the sloops that sailed the Hudson in the 18<sup>th</sup> and 19<sup>th</sup> centuries. He has filled various roles, including editor, grant officer and storyteller.

He oversees the group's educational programs, taking youths aboard the boat and sailing along the Hudson, leading shore-based field trips and speaking at classroom assemblies in the region.

"I'm very much into fish. For Clearwater, it gives me a chance to use that and teach that and get kids out into nature," Conover said. Clearwater was founded in 1969 by musician and environmental activist Pete Seeger. Today, its educational endeavors include the Next Generation Legacy Project, which teaches school-age children and young adults about the eco-employment opportunities of a green economy, and Clearwater Moment, which is billed as a daily gathering to activate, educate and inspire burgeoning environmental leaders.

*Tracy Kinne is a freelance writer from Oswego County.*

**ESF alumni who are on the staff of Hudson River Sloop Clearwater are, from left, Jennifer Rubbo, Christine Kane, Dave Conover and Katy Dunlap.**

Photo courtesy of Tom Staudter





by Karen B. Moore

Do you need to know how to say “Hello” in Awutu, one of more than 60 languages spoken in Ghana? Are you sending an academic paper to a French science journal and need help with the translation? Getting a tattoo and want to make sure the Japanese symbol really means “faithful” and not “faithless”? Or do you just want to speak your native language of Twi, another of the many tongues spoken in Ghana?

To do any of that, all you have to do is make a withdrawal at ESF’s bank: the ESF Language Bank. The bank has 83 volunteers representing 43 languages. Students, along with faculty and staff, serve as “depositors” in the bank. When people in the ESF community need help with any of the languages in the bank, they contact Eileen Baldassarre, an administrator in the ESF Office of Multicultural Affairs, who connects people in need of translations with someone who can help.

Raydora Drummer, director of the Office of Multicultural Affairs, said the Language Bank serves many purposes, including translating, providing an opportunity to practice a language before going abroad, and connecting people with a common language who just want to speak and hear their native tongue while in the States.

“Someone might say, ‘Hey, someone else speaks Urdu! I want to talk to them,’” said Drummer. The Language Bank can meet that need.

Professor Allan Drew called on the Language Bank when he was submitting an article to *Interciencia*, a Latin American science and technology journal. The article, about tropical wet forest growth and community and forest dynamics in

Puerto Rico, needed to be translated into Spanish and Portuguese. Drew had the article translated via an online translation service but wanted someone to proof it before submission.

Drew contacted Baldassarre, who matched him with graduate student Santiago Bueno, who is from the Dominican Republic. “Santiago took it and looked at what I had come up with, checked the translation from English to Spanish and made some revisions,” Drew said. There were some English words that were difficult to translate, and Drew and Bueno worked together to come up with the proper translation.

“It was very effective,” said Drew. “If I am ever in a similar situation I would use the Language Bank again.”

The Language Bank also provides international students with a sense of home.

“When in a foreign country you begin to long to hear your language. It’s part of the culture shock not to hear your language,” Drummer said. “Language really incorporates culture. It’s not always about words, but cultural context. You have to be very brave to go somewhere where people don’t speak your language.”

“The Language Bank isn’t just for minority or international students,” explained

Drummer. "A lot of people in the bank are American students who have traveled and speak more than one language."

ESF had 152 students representing 35 countries on campus for the 2008-09 academic year. According to Thomas Fletcher, admissions counselor, ESF does no formal recruiting for international students.

"They find us via the Web or through word-of-mouth," said Fletcher. "They've had family or friends who went here, we have alumni around the world and ESF has research going on worldwide, so they find us that way."

Said Lawrence Marte, a senior wildlife science major from the Dominican Republic, "Among environmental professionals, ESF is very well-known."

Drummer added, "In Asian cultures when you graduate from someplace, you are loyal to it forever. I suspect when students go back to their country, they tell people about ESF."

Once students get to ESF, they say, they find a welcoming environment.

"The campus community is so open," said Sarah Darkwa, of Ghana, West Africa. "When you go to the offices, everyone is so nice. It makes life interesting and easy." Darkwa is a Fulbright Scholar in environmental science.

Part of that open feeling is provided by the Office of Multicultural Affairs to help ESF's international community and the campus as a whole.

"Multicultural Affairs tries to help people find a community," said Drummer. "We can connect people with resources, whether it involves religion, sexual orientation or language."

Finding a sense of community can influence a person's decision to come to one college instead of another, Drummer said. The Office of Multicultural Affairs partners with undergraduate and graduate student organizations to provide events that support a cultural connection for students. Those events include Latin Night, the Culture Fest, Lesbian/Gay/Bisexual/Transsexual Night, the Native American Feast and Film, the Spirit and Essence Banquet and the International Food Festival.

"Raydora really pulls it together," said Bueno. "The international community really comes together at ESF."



**41 Languages**

**35 Countries**

**1 College**

**Countries Represented by ESF students**

- Bangladesh
- Bolivia
- Brazil
- Bulgaria
- Canada
- Chile
- China
- Colombia
- Dominican Republic
- Germany
- Ghana
- Guyana
- India
- Indonesia
- Jamaica
- Japan
- Kazakhstan
- Kenya
- Latvia
- Mexico
- Mozambique
- Napal
- Netherlands
- Pakistan
- Peru
- Philippines
- Portugal
- Russia
- South Korea
- Taiwan
- Thailand
- Turkey
- Uganda
- United Kingdom
- Vietnam

**Languages in the Bank**

- Afar
- American Sign Language
- Arabic
- Awutu
- Bengali
- Bosnian
- Serbian
- Croatian
- Cambodian
- Catalan
- Cherokee
- Cantonese
- Mandarin
- Dagari
- Ethiopian
- Fante
- Filipino
- Finnish
- French
- Ga
- German
- Greek
- Hebrew
- Hindi
- Italian
- Japanese
- Korean
- Laotian
- Malagasy
- Malay
- Mohawk
- Nepali
- Patois
- Polish
- Portuguese
- Russian
- Samoan
- Spanish
- Swedish
- Tigrinya
- Twi
- Ukrainian
- Urdu

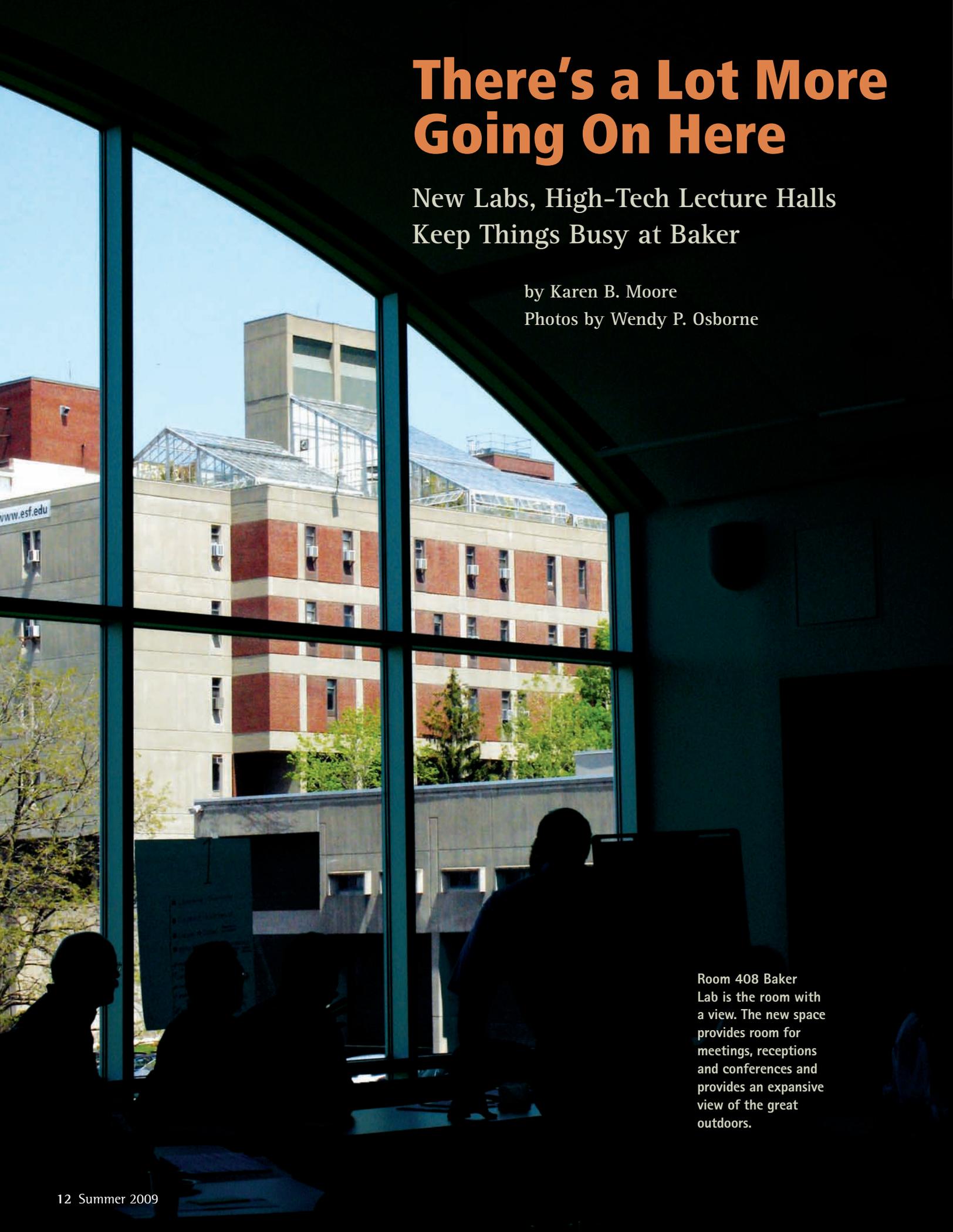


# There's a Lot More Going On Here

New Labs, High-Tech Lecture Halls  
Keep Things Busy at Baker

by Karen B. Moore

Photos by Wendy P. Osborne



Room 408 Baker Lab is the room with a view. The new space provides room for meetings, receptions and conferences and provides an expansive view of the great outdoors.



“This building just looks like an engineering building. It looks like a place where good engineering work is being done.”

— Dr. James Hassett

The gentle sound of splashing water heard on the west end of campus is not a babbling brook, but an experiment being done in the hydrology lab in the newly rehabilitated Baker Laboratory.

“This building just looks like an engineering building. It looks like a place where good engineering work is being done,” said Dr. James Hassett, professor in the Department of Environmental Resources and Forest Engineering (ERFEG).

Baker Lab is now the home of ERFEG, the Department of Construction Management and Wood Products Engineering (CMWPE) and the Academic Computing Center.

After 12 years, Baker Laboratory's \$37 million top-to-bottom, inside-and-out rehabilitation is complete. The project added high-tech lecture halls and new computer and engineering labs and used the latest in green construction practices.

Dr. Charles Kroll, ERFEG chair, said the new facilities are a plus not only for ESF but also for New York state. “The work ESF does addresses the needs of the state,” he said, noting the new labs can be used for research projects that have a direct impact on the region, such as the naturally chilled water project that would use water from Lake Ontario to cool buildings in Syracuse.

As environmental engineering moves to the forefront of the sustainability movement, Baker Lab will help fulfill the nation's need for engineers. “The space means a lot to us,” said Kroll. “Our undergraduate numbers are steadily increasing.”

The new Baker Lab will give ERFEG, which enrolls just over 100 undergraduates, a home of its own for the first time. Previously, ERFEG had classes and labs in three buildings. New labs include an ecological engineering lab, an engineering design lab, a wet chemistry lab and a hydrology and hydraulics lab.

The hydrology and hydraulics lab, which houses a seven-meter sediment- and water-recirculating flume, a three-meter teaching flume, a river hydraulics table and other hydrologic and hydraulic field and laboratory equipment, was dedicated to Hassett in September 2008. Hassett is a longtime supporter and faculty member of ERFEG and was chair of the department from 1999 to 2008. (To see the flume in action, go to [www.esf.edu/flume](http://www.esf.edu/flume))

“This will really allow us to consolidate all our activity in a first-class facility,” he said.

Students also enjoy the new space. “It's useful to have all your classes in the same rooms and building where you can run into classmates,” said Jeff Newsome, sophomore forest engineering student.



A student uses the new sediment- and water-recirculating flume to study how water behaves in various circumstances. Dr. Charles Kroll, the ERFEG department chair, notes the Baker facilities can be used for research that has an impact on Central New York.

Dr. Susan Anagnost, chair of CMWPE, said the new space has allowed the department to branch out. "The construction allowed the department to move into new areas of teaching and research consistent with the College's mission to promote the leadership necessary for the stewardship of the natural and designed environments."

New labs for green construction/building materials research and composite products research and an updated wood engineering test lab are among the enhanced facilities.

"It's helpful to have our own lab," said Nolan Reeves, a senior construction management student. "There's always someone else working on the same project you are. It's definitely helpful if you have a group."

A new computer-based construction management classroom has new computers and software, with additional space for students to work on construction documents.

Students who moved in and about Baker during the long construction period said the work made going to classes interesting.

"It was exciting," said Otis Deluca, a senior in the wood products engineering program. "You never knew when you showed up for class if there'd be a ladder in the doorway or something. I think we did a good job occupying and working in a building undergoing construction."

"I think I was in Little League when you started this project," senior James Brown joked.

The construction project also provided practical experience for a number of students. Some did internships related to the project, and Ken Tiss, who teaches a number of construction management courses, used the rehabilitation as a practical example in his classes. In his blueprint class, he used the plans, specs and photos taken during the process.

"For the students, it made the connection between what it looks like on paper and what it looks like installed," Tiss said.

Anagnost said the new labs and classrooms are "a big plus for teaching and research."

After five years in Walters Hall at the other end of the campus, the Center for Ultrastructure Studies has moved back to Baker. The microscopy facility supports



Top photo: Dr. Robert Hanna assists with students in the Scanning Electron Microscopy Lab. The lab is used by graduate students from nearly every department. It can simultaneously produce 3-D images and perform an elemental analysis of a specimen.

Middle Photo: Graduate students work in the Transmission Electron Microscopy Lab. The transmission electron microscope can magnify a specimen to 1 million times its size and is being used in nanotechnology research.

Bottom Photo: Students take a break in one of the new lounges in Baker Lab.



The Baker Lab project put a concerted emphasis on sustainability and green technologies. During the demolition and reconstruction phases, much attention was paid to recycling materials.

— Brian Boothroyd

graduate students campuswide. "Students now have room to work," Anagnost said. "The center is brighter and lighter."

To prepare the new labs, a successful campaign was completed for CMWPE to purchase the needed high-end equipment.

Said Brenda Greenfield, ESF director of development, "One of the best gifts was \$100,000 to equip Sue Anagnost's lab by ESF alumnus Dr. Chin Yang. Dr. Yang made the gift in honor of his former major professor, Dr. Chun Wang." Wang is professor emeritus and a pioneering researcher in ESF's Department of Environmental and Forest Biology. She has worked extensively with wood-decaying fungi.

The third department in Baker, the Academic Computing Center, is also enjoying the new space. The new labs offer versatility. Computer desks can be converted into a flat workspace by folding the computer, keyboard and mouse down into the desk.

"The lab can then be used as a general classroom," said James Sahn, computing and network systems coordinator. When it is used as a classroom, the professor can

also project the main instructional screen to the students' computer screens for easier viewing during a lecture.

The new computing space allows for more services to be offered. There's now a dedicated area for students to get help with the computing labs.

The Baker Lab project put a concerted emphasis on sustainability and green technologies. During the demolition and reconstruction phases, much attention was paid to recycling materials, said Brian Boothroyd, facilities program coordinator. The numerous green innovations include extensive use of electronic lighting controls and occupancy sensors in the rooms and a sophisticated, digital building management system that regulates the air-handling and exhaust systems. The building also features a photovoltaic system, which doubles as window shading on the south side of the building.

The College will apply for Leadership in Energy and Environmental Design (LEED) certification for Baker Lab, said Boothroyd.



A snack bar on the third floor offers students a spot to grab a snack or catch up on some work in between classes.

The Academic Computing Center and its Help Desk provide students, faculty and staff with onsite computer assistance.

The main lobby in Baker Laboratory is graced with pieces that evoke the College's history and relationship with people in the forest products industry. Here is a look at what visitors see:



### Mahogany Log

The large piece of mahogany in the lobby of Baker Laboratory was donated to the College by Marsellus Casket Company in 1992 for teaching and demonstration purposes.

The age of the African mahogany is unknown because tropical trees do not start and stop growing like trees in New York. Three species of mahogany grow on the islands of the Caribbean and in Central America and South America, and several more grow in Africa.

Mahogany trees in Africa are of the genus *Khaya*; mahogany in the Americas is of the genus *Swietenia*. ESF researchers have studied the chemical and genetic similarities between the *Khaya* and *Swietenia* species to see how closely the two are related.



### S.S. Chelston

The handcrafted model of the S.S. Chelston was donated to the College by John D. Marsellus in 2003.

The 7-foot, half-hull model of the S.S. Chelston was made in Scotland circa 1860. The Geo. D. Emery Co., an importer of mahogany with a manufacturing plant in Boston, had the Chelston built for its business in Scotland. The ship was specially designed to transport large, round mahogany logs.

During World War I, England became short of ships, and since the Chelston was of British registry and sailed under British flags, she was commandeered for government use to transport grain from Canada to England. On her third trip she hit a shoal in the Gulf of the St. Lawrence River and sank.



### "The Cranberry"

The canoe, known as "The Cranberry," was originally delivered to the College's Cranberry Lake campus in 1948. It is an 18-foot wood-and-canvas model produced at the famous "Old Town" factory in Maine. After many years of service, it was taken in the 1960s to the College's Warrensburg campus, where it continued to serve faculty and students. Gradually, the rocky shores and exposure to the elements took their toll.

By the mid 1960s, the director of the summer camp in Warrensburg was told to dispose of it and three other canoes that needed more repairs than the state of New York considered reasonable. Then-graduate student Robert Edmonds FNRM '65 saved the canoe from being burned or turned into a bookcase. In 1969, he and his father-in-law repaired it.

It served the Edmonds family well until it met with a falling tree branch one summer in New Hampshire. One end of the canoe was almost severed as a result of the crashing tree limb. For years the canoe sat idle.

At an alumni reunion at Cranberry Lake in 2001, Edmonds met David Paul WPE '68, who restored wooden boats at his farm in Vermont. After the reunion, Paul volunteered his labor to painstakingly restore the canoe back to its original 1940s splendor. The Alumni Association paid for remaining costs.

"David was a perfect match for The Cranberry," Edmonds said.

"The Alumni Association hopes the canoe display will bring back memories for many alumni and show how beautiful a wooden canoe can be," said Justin Culkowski, director of alumni relations. ■

# In the Ground

Volunteers plant 200 young American chestnuts as the next step in the restoration project

by Claire B. Dunn



Mike Satchwell patted the earth around a tiny American chestnut seedling then sat back on his heels and admired his work.

"It's nice to see them actually go in the ground," he said, looking around the clearing in the woods, where several other people were digging holes and securing protective ground cloth around young trees.

The young tree Satchwell was tending to was one of some 200 chestnut trees planted that sunny spring day on ESF property; it was the latest – and perhaps, most symbolic – step in the College's efforts to restore the blighted American chestnut tree.

Led by Drs. Charles Maynard and William Powell, a few dozen volunteers gathered to plant the trees that will provide the researchers with information about how genetically engineered trees grow in comparison to untreated control trees and whether the genetically engineered trees appear to be resistant to the blight that virtually eliminated the trees from the nation's forests.

The planting was the culmination of 20 years of work in ESF laboratories.

Maynard and Powell, co-directors of the American Chestnut Research and Restoration Project at ESF, can quickly tick off the tree's many attributes: It provides food for forest animals, the rot-resistant wood could be used for backyard decks in place of pressure-treated lumber, its straight grain makes it easy to work with, and it grows quickly.

There is a sentimental aspect, too.

"Chestnuts have a stanza in a Christmas carol," Maynard said.

The trees planted in May began about five years ago as embryos that were removed from the nuts about a month after they had been pollinated. This process involves removing the nuts from the prickly burrs that encase them.

"It's like trying to dissect a porcupine," Maynard said.

The vast majority of the embryos don't survive in the laboratory. But one in roughly every 1,000

will survive and grow as an embryo culture. That allows the researchers to put in the gene they hope will enable the trees to defend themselves from the lethal fungus. Powell said they use a gene – an enzyme called oxalate oxidase – obtained from wheat, that detoxifies acid produced by the fungus. That acid is fatal to the trees.

The rare embryos that express the hoped-for genes are further multiplied in the lab as they are grown into viable plants. Then, after several months in a delicately controlled environment, they are taken to the campus greenhouse to acclimatize.

In the meantime, Maynard said, the researchers are experimenting with different potting mixtures and fertilizers to see what works best when the young trees are ready for planting.

Currently, chestnuts surviving in the wild rarely last longer than 10 to 20 years. Chestnuts sprout from their stumps, grow vigorously for a few years, then inevitably become infected and die. But the roots survive because the fungus cannot live in the soil.

"They resprout, they grow to a certain size, they get infected again, they get killed back to the ground," Powell said. "And that's basically how chestnuts are surviving today."

The restoration project has been supported for many years by the American Chestnut Foundation, which was well represented at the May planting.

"I can't say enough about how the work has gone," said Herb Darling of Buffalo, president of the New York state chapter of the ACF and a former member of the foundation's national board. "At one time, everybody in the eastern United States knew about chestnut trees. They were major timber trees."

"This has been an 18-year project," said Dale Travis WPE '59, who donated the growth chambers now housed in the old greenhouse on campus. "We've got the first trees in the ground. That's something to put a smile on your face. We're going to get this tree back."



At top, volunteer tree planters review the procedures they are to follow as young chestnut trees are planted on ESF property. Above, the soil is patted into place around a newly planted tree.

# BUILDING FOR A GREENER FUTURE

## ESF's Campus Master Plan Matches Its Philosophy

by Karen B. Moore

Under ESF's campus master plan, the look of its campus will change a lot – but the College's commitment to sustainability will not.

College President Cornelius B. Murphy, Jr., this spring gave the campus community an update on the master plan, which includes new buildings, roadways and a large focus on sustainable energy.

"The master plan is demonstrative of what we feel is important as an institution," Murphy said. "Our students said, 'If you're going to teach green, you have to *be* green.'"

The master plan has its roots in the College's Vision 2020 strategic plan, which was adopted in 2003. One of the plan's goals was to invest in ESF's physical infrastructure.

"This plan supports the mission of ESF, it promotes environmental stewardship and what we teach, and represents us as an environmental leader," said Murphy.

Timothy R. Toland, assistant professor in the Department of Landscape Architecture, has been instrumental in developing the master plan. Last year, Toland and a group of LA students led campus workshops to gather input on what the ESF community felt was important regarding the campus. That information, combined with a campus planning study by King & King Architects, was used in the development of the plan.

Three new buildings have been planned for the College: the Gateway Building, the Academic Research Building and student housing along Oakland Street.

The Gateway Building will house the Admissions and Outreach offices, exhibition/gallery spaces, a café/snack bar, a Roosevelt Wildlife Collection display, a bookstore and University Police offices. Along with being designed to create a dramatic first impression for campus visitors, it is intended to be a LEED-Platinum building and a zero net energy showcase with the design including biomass combined heat and power, photovoltaics, a green roof, passive solar-heating components and rain gardens.

Architerra, a nationally recognized "green" architectural firm from Boston, is designing the

building, which will be built on the site that is now occupied by the parking lot behind Moon Library. The building is expected to be completed in time for the College's centennial celebration in 2011.

"The new buildings are going to be green buildings," said Toland. "We're going to go beyond the LEED standards and be sensitive to the environment."

The Academic Research Building (ARB), to be located on the Standart Street/Raynor Avenue block, will house the administrative, faculty and graduate student offices for the Department of Environmental and Forest Biology, dry/wet research labs, greenhouses, study/collaborative space, an insect museum, a mycological collection and a vascular plant herbarium display. Preliminary plans also include a 240-plus space parking facility. The ARB is expected to be completed by 2014.

Student housing along Oakland Street is also being developed. The complex will house 280 to 300 freshmen in shared rooms, along with more than 150 upperclassmen in single-bedroom suites or apartments. As with all the proposed buildings, it would be LEED certified and use sustainable heating and cooling.

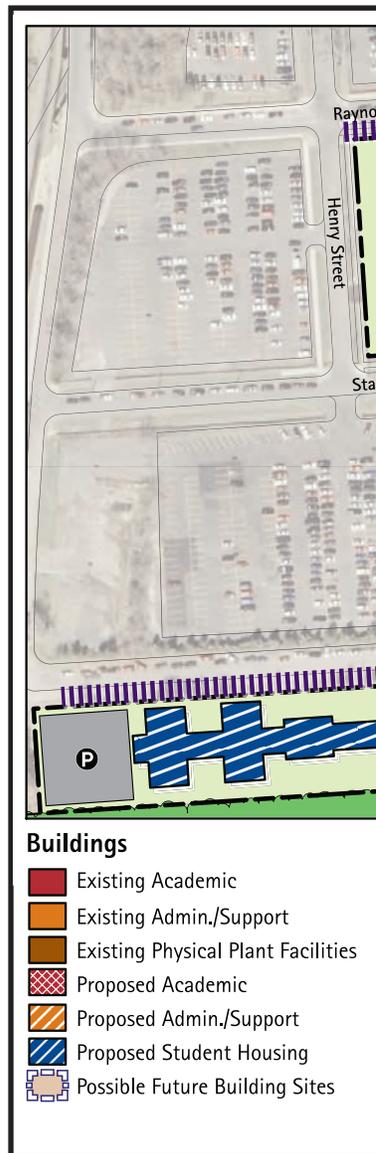
Said Toland: "This will be a quiet summer on campus, and then it's going to be a busy, busy campus for the next 15 years or so."

The existing campus buildings are on a preliminary rehabilitation schedule that begins in 2014 and runs through 2024. Energy systems within the buildings would be improved and space utilization would be increased.

All ESF properties are being looked at to find ways to use more sustainable energy.

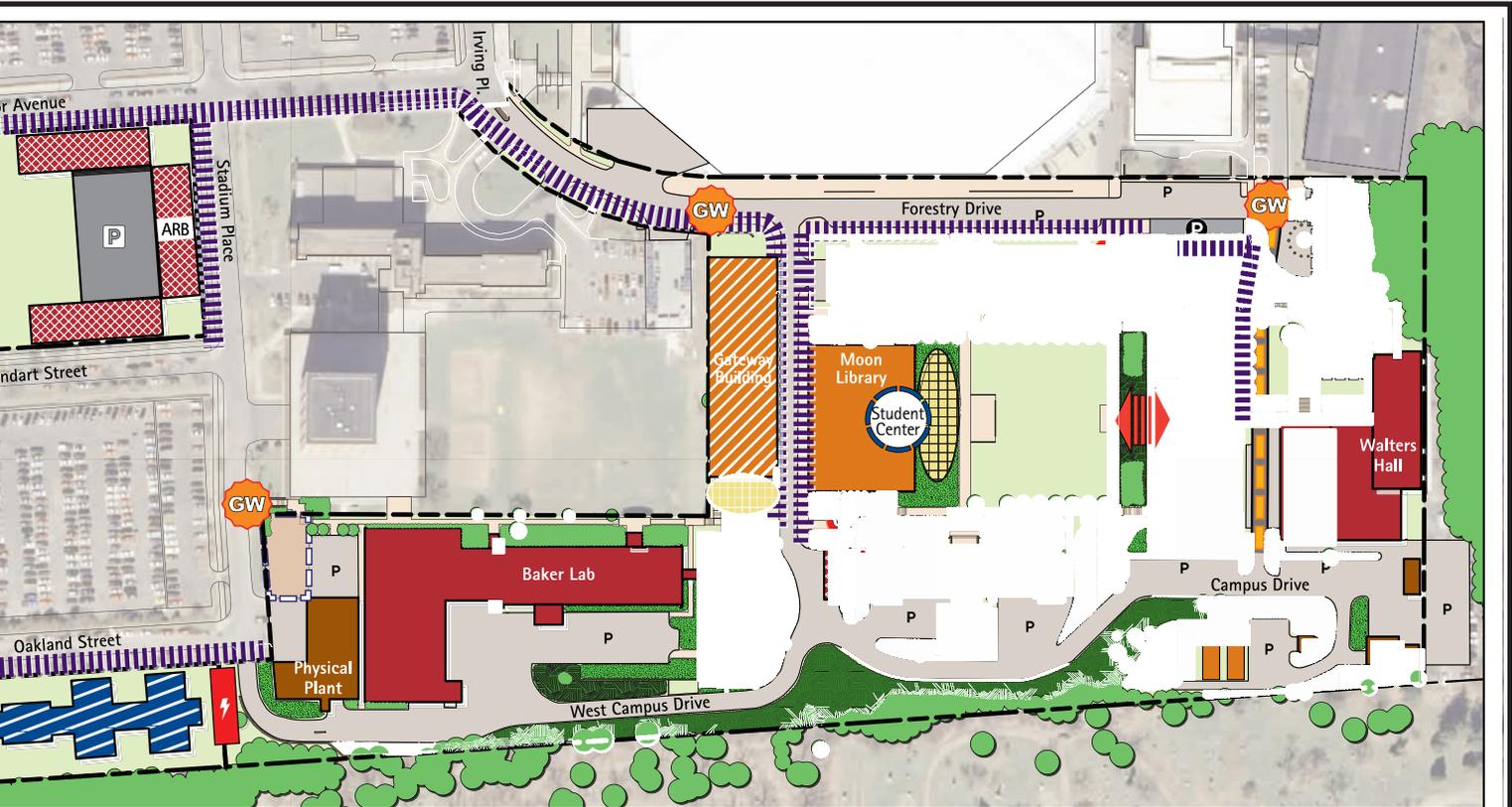
Michael Kelleher, director of renewable energy systems, said the College has already instituted a number of initiatives, including conservation, the green roof on part of Walters Hall, the use of waste cooking oil to make biodiesel, the use of a fuel cell and the photovoltaic arrays on Baker and Walters halls.

Plans are on tap to implement a New York Power Authority energy audit that includes a Jahn Lab heat recovery system, variable speed drives on



**“The question is: How can we use the campus as a resource to be an example to the community?”**

**– Tim Toland**



**Spaces and Places**

- Potential Student Center Location
- Proposed Gathering Spaces
- Improved Campus Gateways
- Improved Quad Gateways

**Site Improvements**

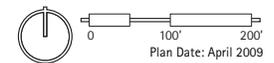
- New Road
- Streetscape Improvements
- Proposed Pedestrian Connections
- Existing Bio-retention Areas
- Relocated Electric Substation

**Plantings**

- Existing Trees
- Existing Plant Beds
- Prop. Priority Planting Areas
- Prop. Additional Planting Areas

**Parking**

- Existing Parking
- Proposed Surface Parking
- Temporary Surface Parking
- Proposed Parking Facility



big motors, test occupancy sensors in Bray Hall to control lighting, and heat trap replacement in Marshall Hall. Wood pellet heating will replace oil at the Adirondack Ecological Center at the Newcomb campus, and the use of photovoltaics will enhance teaching and demonstration on the main campus, at the AEC and at the Tully Experimental Station.

Other energy projects being investigated are photovoltaic projects for Moon Library, the AEC and Ranger School; an urban wind project on Illick Hall; and a biomass pilot-scale pellet plant for research, testing and demonstration of locally produced biomass energy. Combinations of heat and power involving biomass, fuel cells and photovoltaics are also being pursued.

“We’re looking for things that will help save money and pay for themselves in the short term,” said Kelleher.

ESF will also investigate how to manage its extensive forest properties to generate its own carbon offsets. The College has some 25,000 acres of forest properties, making it one of the largest college campuses in the world and those properties help reduce ESF’s “carbon footprint.”

“Here at ESF we actually have quite a lot of trees,” said Robert Davis, director of forest properties. “The simple fact that we’re holding forests and managing them means we should get credit for it.”

The master plan also includes making the ESF grounds a living demonstration that will “live what we teach.”

“The question is: How can we use the campus as a resource to be an example to the community?” said Toland. Among the initiatives being discussed are increased use of green roofs and bioretention areas, and a reduction in the amount of turf grass that could be replaced with native, noninvasive plants.

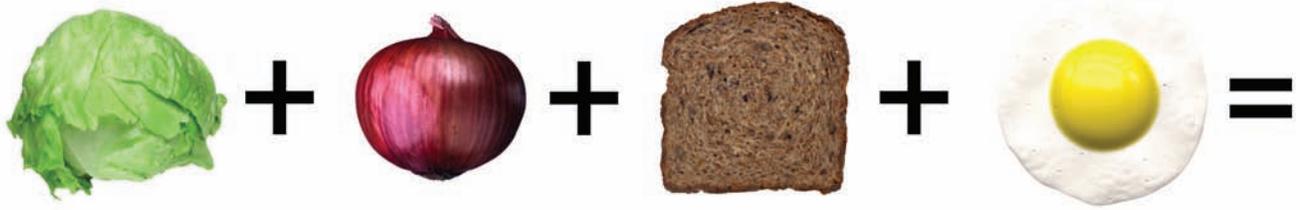
“We can create a landscape that teaches,” Toland said, pointing to the use of demonstration areas for rain gardens and energy-producing willows. “Rather than taking field trips, we can do the teaching on campus and eliminate some of the field trips.”

“The thing about all these changes is we need a perceived change about what a college campus looks like,” said Toland.

It doesn’t always have to be bricks and ivy.

For a complete look at the campus master plan, visit [www.esf.edu/sustainability](http://www.esf.edu/sustainability)

Bring them your lettuce leaves, your onion skins, your bread and eggs...



# Methane-O-Matic

by Claire B.Dunn

Photos by Wendy P. Osborne

In Dr. David L. Johnson's lab, they call it "garage sale science." Johnson, an environmental chemist who reigns over the space on the fourth floor of Jahn Laboratory, acknowledges that his homemade machinery – a pair of experimental anaerobic digesters – resembles contraptions that could have been sketched by Rube Goldberg, the Pulitzer Prize-winning cartoonist famous for drawing complicated mechanisms that perform simple tasks.

"It's kind of like a Rube Goldberg thing," Johnson said. "You know: Do you really need all this to heat your soup?"

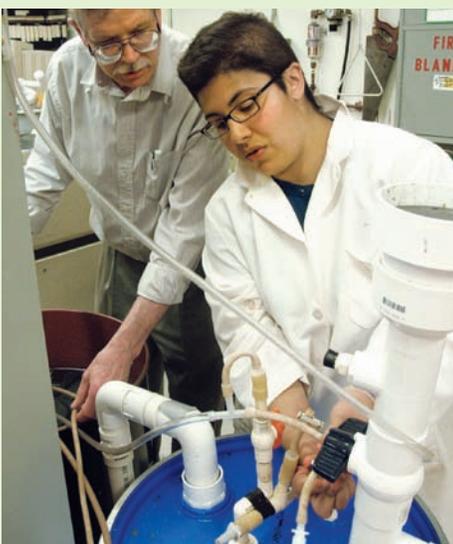
Heating canned vegetable soup was, indeed, the first application of Johnson's experiments in turning food waste into methane. But if it works the way he and his research team hope, the project could contribute to sustainability, reduce carbon emissions and reduce the flow of the waste stream.

"We want to use as much food waste as we can and turn it into as much methane as possible, using the smallest, most efficient system we can devise," he said. "We want this to be

able to work on whatever people usually put in their compost pile in their backyard. And it would be a little bit different for everybody because everybody eats different things."

A lack of literature on the subject of making methane from food waste led Johnson to become self-educated on the subject of digester construction. The two units in his lab are cobbled together with inexpensive equipment; some pieces were donated by ESF colleagues and some were discovered at garage sales, including one 3-foot-tall plastic tube that Johnson's wife spotted along the roadside and sagely recognized as usable. The tube now serves as part of the filtering process.

The first machine, which Johnson calls a spiral plug-flow digester, is coiled like a chubby white snake on the counter in his lab. For six months, he and his team of student researchers have been stuffing it full of vegetable waste, pressing the lettuce leaves and onion skins into it with a piston that is whimsically graced by another garage sale find: a brass handle in the shape of an eagle's head that once was the handle of a stylish walking stick.



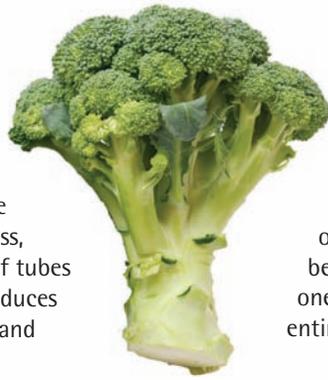
Dr. David Johnson, left, and Lindsay Perez EFB '10 prepare the digester to remove a batch of fertilizer.



Perez checks the volume of liquid removed from the digester.



Johnson cuts up food waste in preparation for feeding the digester.



As the students push the food through the spiral, it breaks down through a natural process, emitting methane that is collected in a web of tubes that run through the lab. The process also produces liquid effluent that looks like cloudy iced tea and could, with a bit of modifying, be used as greenhouse fertilizer.

"This has been here for six months, and it's working," Johnson said. "So this demonstrates that it can be done. We're trying to push it now and make it go faster."

The second digester is something Johnson calls an "intermittently stirred tank reactor." It is fed nearly every day with two liters of a concoction that looks like broccoli soup. This concoction is made mostly from vegetable waste with some bread and eggs that are run with water through a machine much like a garbage disposal. It goes into the tank, where it mixes with a series of bacteria.

The first bacteria make the mixture soluble. The second break the material down further and produce acetic acid. The third consume the acetic acid and produce methane. The end products are the methane and the strong-smelling liquid that could be used as greenhouse fertilizer if the odor could be lessened.

"We're working in a chemistry lab here, but everything we're working with is naturally occurring," said Nate Brady, who graduated from ESF in May. He and classmate Robert Bullard used the composting work as their undergraduate research project.

The research team must maintain a delicate balance of pH, temperature and bacteria ratios within the tank because too much heat or too little nutrition can put one species of bacteria out of commission and halt the entire process.

"The one has to eat the acetic acid as fast as the other makes it or the whole thing goes south," Johnson said.

Johnson's experiments began with what he jokingly refers to as his "epiphany," brought on by his attendance last year at a conference of the National Council for Science and the Environment. The focus of the gathering was "Climate Change: Science and Solutions."

"I just got stoked," he said. "I said to myself, 'Why am I studying house dust? Who cares? I ought to be studying alternative energy and climate change.'"

So the environmental chemist, who had spent years developing analytical techniques for determining the presence of heavy metals in house dust and soil, turned his attention to the long-term issues of climate change and alternative energy.

He was intrigued with a centuries-old idea: using waste to produce methane. But he wanted to update it. Instead of the human and animal waste commonly used in such an operation, he wanted to use only food waste. And he wanted to figure out how to do it, with consistent results despite a variety of feedstocks, on a scale that would be convenient for use by restaurants, for example, or groups that operate community gardens.

**"It is fed nearly every day with two liters of a concoction that looks like broccoli soup."**



The chunks of food are ground with water in a recirculating garbage disposal.



The resulting thick liquid "soup" is heated to 100 degrees Fahrenheit.



A batch of warm "soup" is added to the digester, replacing the liquid that was removed earlier.



**"I said, 'Why compost it when you can make methane from it?' And they saw the value in that,"**

**— David Johnson**

Early in the process, he consulted with student members of the College's Green Campus Initiative committee and redirected food preparation waste from the on-campus Gallery snack bar from GCI's compost operation to his methane experiment.

"I said, 'Why compost it when you can make methane from it?' And they saw the value in that," he said.

The Sheraton University Conference Center also supplies food waste for the digesters and will scale up its contribution this summer, when Johnson and master's student Gary Bonomo begin to scale up the operation. They plan to use the old campus greenhouse to house a digester that could process more than 50 pounds of food waste a day, as opposed to the 2 pounds a day that were processed in the early months of the experiment.

The project has already pulled in collaborators from other ESF departments. Dr. Stewart Diemont in the Department of Environmental Resources and Forest Engineering, whose research includes natural treatment systems, has a graduate student, Hui Lin, working on the project.

Diemont is using an ecological treatment system to treat the water that flows out of the digesters. The liquid goes into a worm composter, and the worms use the organic matter to produce rich compost that can be used as plant fertilizer. Eventually, the liquid ends up in an aerobic tank where food-producing plants, such as tomatoes, can grow. From there, the liquid can go into an algal growth chamber where algae use the nitrate in the liquid as a fertilizer. The result is algae that can be used as a feedstock for biodiesel production or some other high-value product.

Lin's work focuses on making the system work most efficiently as she figures out water-flow rates, plant growth rates, the ratio of energy to benefits and the potential for more value-added products.

Johnson has another partner in Mary Ann Keenan, a visiting faculty member in the Department of Environmental Studies, who is part of a committee working to implement Johnson's project. Keenan's focus is cultural ecology, which she describes as "the marriage of humans and the environment."

"If you don't know how humans operate, how can we expect to study the environment as any sort of change agent?" she said.

Keenan and Johnson have met with faculty members and students at the Syracuse University Whitman School of Management to devise ways to make the project commercially viable. A team of students from the two schools presented their plan, called "Food2Joules," as part of Whitman's 2009 Panasci Business Plan Competition. They earned \$5,000 in seed money by finishing third.

Johnson described the operation on a historic day. For the sake of some visitors, Bullard attached a Bunsen burner to the methane supply and lit a match. It worked. Johnson immediately emptied a can of vegetable soup into a copper-bottom pot and set it over the burner to heat for lunch. Bullard was so impressed with the significance of the event that he took a picture with his cell phone camera.

Johnson stuck his finger into the pot. "The soup is heating," he said. "This is the first actual application of the methane process. That stuff started out as tomatoes and scrambled eggs and it ended up heating soup. And around and around we go. That's why we call it carbon recycling."



Some of the fertilizer is stored for later analysis.



A plastic tube is part of the process for removing CO<sub>2</sub> from the biogas.



This experimental plug-flow digester has been in use continuously since Aug. 24, 2008.



## An ESF Encounter in Africa

Shared by W. Leslie Robinette '37

Back in 1965-69, I served as an instructor at the African College of Wildlife Management, located near Moshi, Tanzania, on the slopes of Mt. Kilimanjaro. In the early 1960s, international conservationists recognized the need for trained Africans to assume management of wildlife in the countries that were gaining independence from the colonial powers. The school was established in 1961 and money for instructors, buildings, and supplies was furnished by the Food Agriculture Organization of the United Nations, the United States, Germany, Canada, Ireland, England, and Italy.

In time, the college drew students from a number of English-speaking African countries: Tanzania, Uganda, Kenya, Ethiopia, Sudan, Malawi, Zambia and Nigeria, and even Cameroon, which was French speaking.

One day, my wife and I were driving from the college to Arusha when we saw a car stalled beside the road with a flat tire. As I was changing the tire for the three girls, I learned that two were British volunteers and the third was a U.S. Peace Corps worker. The father of the Peace Corps worker turned out to be none other than Svend Heiberg, who was professor of silviculture at ESF while I was there from 1933-37. I had courses with him at the College and also at the Warrensburg Spring Camp, where he was in charge.

As they say: "It is a small world."

*If you have encountered former ESF classmates, faculty members or staff members in unlikely places; or if you work with a big group of people with ESF connections, please let us know. Please limit your correspondence to about 250 words. You can email your stories to [InsideESF@esf.edu](mailto:InsideESF@esf.edu) or mail a note to Editor, Inside ESF, SUNY-ESF, 122 Bray Hall, Syracuse, N.Y. 13210.*

## IN MEMORIAM

### Dr. Harrison H. Payne

Harrison H. Payne, vice president emeritus of student affairs and professor emeritus in environmental and forest biology, died Dec. 23, 2008. He was 83.

Dr. Payne earned his bachelor's degree from the College when it was known as the New York State College of Forestry at Syracuse University. He earned master's degrees from St. Lawrence University, Canton, N.Y., and Union College, Schenectady, N.Y.; and his doctorate from Cornell University, Ithaca, N.Y.

In 1964, he was appointed associate professor at ESF, and in 1969, professor. Between 1972 and 1987, he also served as director of admissions, director of student services, and vice president of student affairs. He retired from ESF in 1987, but retained and demonstrated his deep affection for the College throughout the remainder of his life.

He was an active volunteer for, and board member of, the ESF College Foundation. To recognize his decades of service to the College, the Harrison H. Payne

Scholarship was established by ESF in 2006. As an educator and administrator, Dr. Payne was known for his friendly rapport, especially with students, and his optimistic attitude.

Donations may be made to The Harrison Payne Scholarship Fund or to ESF Alumni at ESF College Foundation, SUNY-ESF, 1 Forestry Drive, Syracuse, NY 13210.

### Dr. Robert G. Reimann

Robert G. Reimann, who served as dean of the College's landscape architecture program in the 1970s and '80s, died April 25, 2009. He was 80.

Mr. Reimann served in the Navy until 1949. He returned to school at ESF, receiving his degree in landscape architecture in 1954. He joined the faculty in 1962 and served as the dean of the School of Landscape Architecture from 1976 until 1984. He became a professor emeritus after retiring in 1998.

As a practitioner, Mr. Reimann founded Reimann-Beuchner Partnership in 1969.

## Awards and Honors

**Auwaerter, John**, 2008 Preservation Design Award in Cultural Resource Studies, Reports category, from the California Preservation Foundation

**Breitmeyer, Bruce**, Distinguished Service Award presented by New York Society of American Foresters

**Gibbs, James**, Outstanding Conservationist Award, New York Chapter of The Wildlife Society

**Fellows, Maureen O.**, Women's History Month honor for environmental vision and action, Syracuse Commission for Women

**Malmsheimer, Robert**, 2008 Forestry Communications Award, New York Society of American Foresters.

**Raynal, Dudley**, 2009 Adirondack Achievement Award from the Adirondack Research Consortium

**Scott, Gary M.**, appointment, Board of Directors of the Technical Association of the Pulp and Paper Industry

**Smardon, Richard C.**, appointed to Onondaga County Resource Recovery Agency board of directors

**Stewart, Anna Maria**, PROG YR, 2009 American Institute of Biological Sciences (AIBS) Emerging Public Policy Leadership Award

**Turbeville, John**, elected as president-elect of SUNY Career Development Organization

## Books & Monographs

**Auwaerter, John** and **George W. Curry**, "Hedge Management Plan for Saint-Gaudens National Historic Site." (Cornish, New Hampshire), National Park Service, Olmsted Center for

Landscape Preservation, Boston, Massachusetts. 146 pages. 2008.

**Curry, George** and **Robert Podfigurny**, *Armory Square*, Arcadia Publishing, Mount Pleasant, S.C., 96 pages, June 2009

**Dawson, Chad P.** and **John C. Hendee**, *Wilderness Management: Stewardship and Protection of Resources and Values (4th edition)*, Fulcrum Publishing, Golden, Colo., 2009

**Gleisner, Jean B.** (MLA, 2008), **John Auwaerter** and **George W. Curry**, "Cultural Landscape Report for the Battery Weed Headland, Fort Wadsworth, Gateway National Recreation Area" (Staten Island, NY) National Park Service, Olmsted Center for Landscape Preservation, Boston, Massachusetts. 244 pages. 2008

**Malmsheimer, Robert W.**, **Patrick Heffernan**, **Steve Brink**,

**Douglas Crandall**, **Frederick Deneke**, **Christopher Galik**, **Ed Gee**, **John A. Helms**, **Nathan McClure**, **Michael Mortimer**, **Stephen Ruddell**, **Matthew Smith**, and **John Stewart**, *Forest Management Solutions for Mitigating Climate Change in the United States*. Society of American Foresters, Washington, D.C. 156 pages, 2009

**Porter, William F.**, **Jon D. Erickson**, and **Ross S. Whaley**, *The Great Experiment in Conservation: Voices from the Adirondack Park*, Syracuse University Press, Syracuse, N.Y., 400 pages, 2009

**Smardon, Richard C.**, "Sustaining the World's Wetlands; Setting Policy and Resolving Conflicts," Springer Press, N.Y., N.Y., 325 pages, June 2009

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