

# BULLETIN

Volume LXXVIII, Number 12

Friday, March 16, 2007

www.ncsu.edu/BulletinOnline/

NC STATE UNIVERSITY

News for the North Carolina State University Community

## Pigs really can fly!

*New biofuels technology may turn fat into jet fuel*

**N**ew biofuels technology developed by NC State engineers has the potential to turn virtually any fat source – vegetable oils, oils from animal fat and even oils from algae – into fuel to power jet airplanes.

The technology – called Centia™, which is derived from “crudus potentia,” or “green power” in Latin – is “100 percent green,” as no petroleum-derived products are added to the process. Centia™ can also be used to make additives for cold-weather biodiesel fuels and holds the potential to fuel automobiles that currently run on gasoline.

NC State received provisional pat-

ents to use the process to convert fats into jet fuel or additives for cold-weather biodiesel fuels. The technology has been licensed by Diversified Energy Corp., a privately held Arizona company specializing in the development of advanced alternative and renewable energy technologies and projects.

Dr. William Roberts, professor of mechanical and aerospace engineering and director of the Applied Energy Research Laboratory at NC State, developed the biofuels process with NC State’s Dr. Henry Lamb, associate professor of

SEE FUEL, PAGE 3

## UNIVERSITY GETS SALUTE FROM NATIONAL GUARD



Chancellor James Oblinger signs a 5-Star Employer declaration of support for National Guard and Reserve members who are also employees of NC State during Employee Appreciation Day ceremonies on Tuesday, March 6. The signing reflects NC State’s continued commitment and appreciation of those who serve. The 5-Star program recognizes those employers who go “above and beyond” the requirements of federal law in allowing employees time away to serve their country. (Photo by Roger Winstead)

## NAS’ Cicerone to give Harrelson Lecture

**D**r. Ralph J. Cicerone, president of the National Academy of Sciences, will deliver the 2007 Harrelson Lecture on Monday, March 19, at 3 p.m. in Stewart Theatre. The event is free and open to the public.

Cicerone will address “How Humans Can Cause Global Climate Change,” drawing from his research in atmospheric

chemistry and climate change. Cicerone has been instrumental in shaping science and environmental policy both nationally and internationally, and his research has received wide acclaim.

Cicerone’s work has been lauded for helping scientists better understand greenhouse gases, ozone depletion, the Earth’s atmospheric cycles and other

elements of the climate system. His research was recognized on the citation for the 1995 Nobel Prize in chemistry awarded to a colleague at the University of California, Irvine. In 1999, the Franklin Institute selected Cicerone as the laureate for the Bower Award and Prize for

SEE NAS, PAGE 4

## Learning Commons opens in East Wing of D.H. Hill

**W**hen students returned from Spring Break this week, they found a significantly different look to one area of D.H. Hill Library.

A new Learning Commons area opened in the renovated East Wing on March 12. The commons area, which includes the latest technology and plenty of space for students to work individually or in collaborative groups, occupies the first floor along with the Special Collections Research Center, which features a well-appointed reading room and state-of-the-art exhibit gallery.

The project renovated approximately 36,800 square feet and



Mr. and Ms. Wuf play one of the interactive games in the new Learning Commons area of D.H. Hill Library. (Photo by Bradley Willson)

SEE COMMONS, PAGE 3

## Friday Institute hires director

**T**he Friday Institute for Educational Innovation has announced that Dr. Glenn Kleiman will lead the Institute as executive director.

Kleiman will join the Friday Institute on July 1. He also will be a professor in the Department of Educational Leadership and Policy Studies in NC State’s College of Education.

“Throughout his career, Dr. Kleiman has demonstrated his keen abilities to build relationships and create effective and sustainable partnerships,” said College of Education Dean Kay Moore. “Dr. Kleiman is a nationally respected leader in the field of educational improvement and innovation. He has the vision and experience that will serve the Friday Institute exceptionally well, and we are thrilled that he is joining us.”

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## Staff Senate weighs importance of attendance vs. job responsibilities

**W**hen she agreed to serve on Staff Senate, College of Veterinary Medicine research technician Patty Routh had no idea that a disease epidemic in the animal world would require her to miss several senate meetings in a row. She has remained in contact with her constituents and the issues, she says, and she still participates in committee meetings. Her schedule simply

hasn’t allowed her to attend the full meetings.

Fellow senator Carol Horne is sympathetic with Routh’s situation, but only to a point. Each month, Horne makes a four-hour trek across the state from her Rutherford County Extension Office to attend Staff Senate, and she would be upset to arrive in Raleigh and find that there weren’t enough senators present to

even have a meeting. Case-in-point: At the March 7 meeting in which the attendance issue was discussed, it took 20 minutes to reach a quorum.

The two views highlight the conundrum Staff Senate members face in meeting the expectations of both the employer for whom they work and the constituents whom they have pledged to fully and faithfully represent.

Staff Senate has an attendance policy in place in its by-laws: missing three consecutive meetings or five in one senate year constitutes grounds for removal from office. There is no such thing as an excused absence. The by-law was put into place several years ago after low attendance began to hamper efforts to

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By Dr. Larry Nielsen, PROVOST AND EXECUTIVE VICE CHANCELLOR

# There's no business like 'the know business'

*Editor's Note: Following are excerpts from an address originally given by Provost Larry Nielsen to the Faculty Senate at its Feb. 13 meeting:*

Many of you know that I am a fan of the American musical theater. As a boy, I went to sleep each night listening to the Franklin McCormick show on WGN Radio in Chicago. From 10 to 11 each night, he played one complete Broadway soundtrack, reading the record jacket description of the storyline as he played the music. While other kids were learning Elvis tunes, I learned Broadway show tunes. Because of that and other misguided youthful habits, even today some song or other is always running through my head.

One such recent song, from "Annie Get Your Gun," is "There's No Business Like Show Business." In that song, the characters describe their love affair with show business, despite its ups and downs, its hits and flops. This seems like a great analogy to our life in the university, so I want to "sing" you a song that I call "There's no business like the know business."

As we go through our daily routines, dealing with the ups and downs, the hits and flops, pretty well immersed in the world of the university, we can sometimes forget some of the essential qualities of our academic life. We can forget that there is no business like the know business. And so, I'd like to refresh our thinking a bit.

For starters, let's remember we are members of one of the most respected and trusted professions in the world.

Despite an occasional rebuff by a disappointed student, a hovering parent or an inquiring legislator, we enjoy an elevated reputation in society. Survey

after survey shows that after the clergy, we are tops with the regular folks. People truly believe that we are committed to improving the world around us, that we aren't in this business for ourselves. And they should believe that, because it is true.

The trust and respect that people afford us also produces a second trait of the know business – we are trusted to pursue our work as we each, individually, best see fit. We're all expected to do scholarship, but what that scholarship is and how we go about it is pretty much up to us. Another way to say this is that the concept of "boss" is pretty marginal in the university. Sometimes it may seem that the hammer of accountability falls heavily, but compared to virtually all other forms of work, we are as close to self-determining as one can be and still be part of an organization.



Third, but still part of the first two, we enjoy an incredible level of job security. Because we are trusted and because people understand and value, deep down, that our work takes time and dedication, we have the promise of lifelong employment. As long as we aren't evil or lazy, we will continue to enjoy our positions.

Fourth, and perhaps most important of all, we enjoy the enormous privilege of working in the "know" business. We have the privilege – and responsibility – of working with young people who are just at the right age to learn. They have the basic skills to learn, the maturity to run their own lives, the curiosity to seek new ideas, and the freedom to explore. And despite what we might say about the decline of any of those virtues from the time when we were students or younger faculty members, I believe that case is hard to prove. But whatever the current condition of society in general, we have the best of the situation in the university, and we always will have.

We also have the privilege – and responsibility – of producing new knowledge. I use the term broadly, whether research results, scholarly perspectives, creative outputs, or merely questions. We are free to follow lines of inquiry and

creativity without a close look to the bottom line. In fact, we have no bottom line – just a top line: Do good.

Fifth, we work in a setting of beauty and grace. Although we might wish that our particular campus were more pastoral, the fact that we work on a campus is meaningful in its own right. We work in an environment that physically replicates the essence of our work – the work of thinkers. And to help us along in that work, the people of our state and nation provide libraries, laboratories, computer resources, auditoriums, theaters, studios and many other facilities.

I've said these things in order to put some context around the discussions we often have about how things are going in the know business. We all feel pressure – mostly pressure that we put on ourselves – and stress, so it is good to take a deep breath and see the larger picture. A few days every week, I marvel at my great fortune. As the son of a cleaning woman who didn't finish high school and a milkman who barely did, I thank my parents and my nation for the opportunities they gave me – and continue to give me. A big part of the joy I feel in life is because I get to work in this great institution, devoted to best that life has to offer and to expect. ■

## GUEST COLUMN

By Dr. George Barthalmus, DIRECTOR, OFFICE OF UNDERGRADUATE RESEARCH

# Undergraduate research is a welcome epidemic

The engagement of undergraduates in mentored independent research and creative projects has occurred on campuses for many decades. Indeed, most tenure-track NC State faculty were likely inspired to attend graduate school because of the excitement they experienced from having been mentored by their early teachers.

Today, lifelong learning through hands-on work is spreading in epidemic proportions across the nation. New offices of undergraduate research and campus symposia are popping up at institutions that most would have thought already had one years ago. A glance at Google for "undergraduate research symposium" will reveal many institutions announcing their first or third annual campus symposium. Many would surprise you.

Here at NC State, our first spring symposium occurred 16 years ago; the 17th will be held at the McKimmon Center on April 17. In August 2002, because of successful faculty grants to attract students from around the nation to conduct summer research, the NCSU Summer Undergraduate Research Symposium began; our sixth will be on Aug. 2. In 2003, the Triangle Undergraduate Research Symposium (TURS) was introduced at Duke University and then was

hosted at NC State in November 2004. The response was so great that we took the TURS and created the State of North Carolina Undergraduate Research and Creativity Symposium in 2005 and continued hosting it in 2006. It will rotate to UNC-Greensboro on Nov. 17. More than \$150,000 was raised through grants, foundations and corporate sponsorships for these two one-day events. They were free to any student, mentor or administrator from the 111 two- and four-year institutions in North Carolina. The donors' statement was clear: "The economic future of North Carolina is directly linked to the hands-on talent about to emerge from undergraduate schools."

Graduate and professional schools expect scholarship within the undergraduate experience and, of course, industry is now reluctant to employ students without research, co-op or intern experiences. The days of the 4.0 GPA (without scholarly experiences) assuring admission to postgraduate degree programs, is largely gone. That pressure is rising as more and more students across the nation are becoming excited about this important way of learning and of being better positioned for employment.

The value of an undergraduate research experience takes many forms. It is essential for obtaining the best national

fellowships and for earning the privilege to study with the best graduate mentors in the nation. It introduces students to the ethical and safety issues unique to their discipline, and for many, the broader community desire for immediate answers to pressing local, state and international problems. Research can reduce dropout rates while also increasing learning and retention. For these and other reasons, many campuses are restructuring their curricula so that all courses are strongly research- and inquiry-driven, forcing students to read the primary literature, to disagree, to challenge opinions, and to not just memorize a teacher's golden words. If we could alter all of our courses to behave as though a little "r" was attached to the course title – the "r" meaning a course with critical thinking, inquiry, independent work, and defense of one's position on topics – we will have taken the degrees we offer to an impressive new standard.

At NC State, the value-added opportunity we bring to our undergraduates is not our size, but what a nationally and internationally recognized research faculty bring to their education. We should embrace this fact by enabling all students to learn in non-traditional ways both inside and outside of inquiry-driven settings. ■

## BULLETIN

North Carolina State University  
Raleigh, North Carolina  
Dr. James Oblinger, Chancellor



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[www.ncsu.edu/BulletinOnline/](http://www.ncsu.edu/BulletinOnline/)

## Fuel

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chemical and biomolecular engineering; Dr. Larry Stikeleather, professor of biological and agricultural engineering; and Tim Turner of Turner Engineering in Carrboro.

Roberts says that besides being “100 percent green,” the new technology has some key advantages over other biofuel projects.

“We can take virtually any lipid-based feedstock, or raw material with a fat source – including what is perceived as low-quality feedstock like cooking grease – and turn it into virtually any fuel,” Roberts says. “Using low-quality feedstock is typically 30 percent less costly than using corn or canola oils to make fuel. And we’re not competing directly with the food supply, like ethanol-based fuels that are made from corn.” The fuel created by the new process also burns cleaner, so it’s better for the environment, Roberts says. There is no soot or particulate matter associated with fuel from fats.

Further, Roberts says, the Centia™ process puts to use what other biodiesel processes throw away. Converting feedstock into fuel produces a low-value commodity – glycerol – as a by-product. Rather than discarding glycerol as waste like most biodiesel plants do, the NC State engineers’ process burns glycerol cleanly and efficiently to provide some of the process’ requisite high temperatures.

“Instead of composting the glycerol as waste, we use it as an integral part of the fuel-making process,” Roberts says.

It really does take a rocket scientist to make jet fuel, especially out of oils or agricultural crops, Roberts says. The physical and chemical properties of traditional biodiesel fuels – their combustion characteristics and viscosity, for example – don’t match the stringent requirements required of jet fuels, making biodiesel unacceptable for the task.

“Jet fuel travels at 25,000 to 35,000 feet where temperatures can reach 70 degrees below zero Fahrenheit, so it needs to flow better in cold temperatures,” Roberts says. ■

## Senate

CONTINUED FROM PAGE 1

hold meetings. There is an appeals process for circumstances like Routh’s, but the by-laws are unclear in spelling out who is responsible for removing senators from office or handling appeals of those decisions.

At its March 7 meeting, the senate voted to suspend enforcement of its removal of office by-laws for 30 days while the governance committee clarifies the process. However, it also asked the committee to examine the broader question of what constitutes effective performance. A wide variety of opinions were expressed by senators on this point.

- Some believe senators who are maintaining communication with constituents and

staying abreast of the issues are still effectively serving and should not be punished for missing meetings;

- Some believe that a proxy should be allowed to step in when a senator cannot be present at a meeting. (Some districts have alternates who participate but do not vote; some districts are single-member with no alternate);

- Some believe that senators work as a team within their college or unit, so as long as some of the senators for that college or unit are present, the constituents are being adequately served;

- Some believe that senators chose to make a commitment to their constituents when they ran for office, and that they should honor that commitment or be removed from office.

The senate will take up the issue again at its April 4 meeting. ■

## Commons

CONTINUED FROM PAGE 1

cost about \$11.2 million – \$9.2 million from the North Carolina Higher Education Bond Referendum, passed in 2000, and \$2 million from NCSU Libraries.

The commons area is being hailed as “not only student-centered, but student-defined.”

“The Libraries recognizes the rapid changes taking place in how students study and learn, and in how they socialize and communicate with those around them,” NCSU

Libraries officials said in a statement. “The commons is designed not just to accommodate these changes, but to facilitate more change and to offer students a place that provokes their imagination. In order to remain a space rich in possibility, the technologies, the services, the facility – all aspects of the commons – will continually be informed by the students themselves and offer new ways to communicate and to learn.”

The university community is invited to visit the new space, featuring the inaugural exhibit based on the work of NC State ecologist B.W. Wells. ■

## Friday

CONTINUED FROM PAGE 1

Kleiman is currently a vice president at the Education Development Center (EDC) in Newton, Mass., one of the world’s leading education, research and development organizations with projects in more than 50 countries. He is also director of the EDC Center for Online Professional Education, co-director of the Northeast and Islands Regional Education Laboratory, and a faculty member of the Harvard University Graduate School of Education.

Kleiman has a proven track record of success in forming partnerships and collaborating with state governments, federal agencies, private foundations, businesses and other non-

profit organizations. Since 1985, he has helped EDC grow from three major centers with a staff of 75 and \$4.5 million in sponsored research to a staff of more than 1,200 involved in 300-plus projects supported by more than \$100 million in sponsored research.

“The goals of the Friday Institute are perfectly aligned with the goals underlying my work for the past 25 years,” Kleiman said. “The Friday Institute is well positioned at the intersection of the university, government, K-12 education, and business communities to play a significant role in defining the future of education in North Carolina, as well as helping shape education for our nation and beyond. This is an ideal opportunity to continue and extend my work to enhance education for our children.” ■

# BULLETIN BOARD

## RENCI to hold Open House on March 23

The Renaissance Computing Institute (RENCI) at NC State will welcome the Triangle research community for a March 23 open house that will showcase RENCi technologies and collaborations with NC State researchers. The open house will be held 12-3 p.m. in Suite 1500 of the Partners I Building on Centennial Campus. Remarks by Chancellor James Oblinger, University of North Carolina at Chapel Hill Chancellor James Moeser and RENCi Director Dan Reed will begin at 1 p.m. One of the highlights of the facility is a 14-by-8-foot visualization wall, featuring visualizations created by RENCi, its partners, and NC State faculty, staff and students. Also on display will be state-of-the-art video collaboration and editing facilities. Refreshments and musical entertainment will be provided. If interested in attending, please contact Carol Allen at 515-2858 or allen@cs.ncsu.edu.

## Campus CPR Challenge slated for March 23-24

The Spring NCSU Campus CPR Challenge will be held on Friday, March 23, and Saturday, March 24. All students, faculty, staff, affiliates and their sponsored guests are invited to attend and earn their American Red Cross CPR/AED certification. The cost is \$20 per person for those who register by March 22 and \$30 after that date. Classes begin at 8:30 a.m. and 1 p.m. both days. Space is limited so early registration is encouraged. For more information, visit [www.ncsu.edu/carmichael](http://www.ncsu.edu/carmichael) or contact Joni Buss at 513-7421 or joni\_buss@ncsu.edu.

## Health and Wellness Expo planned for April 16

Health Promotion, Student Health Services and other campus affiliates will host a Health and Wellness Expo on Monday, April 16, from 10 a.m.- 2 p.m. on the Brickyard. The expo will educate attendees about health resources, disease prevention methods and wellness as a lifestyle. Many on- and off-campus organizations will promote health through games, giveaways, healthy snacks, demonstrations and screenings. For more information, e-mail [marianne\\_turnbull@ncsu.edu](mailto:marianne_turnbull@ncsu.edu) or call 513-3293.

## College of Engineering to welcome visitors

The College of Engineering will host an Engineering Open House on Saturday, April 14, from 9 a.m.-1 p.m. All engineering departments on Main Campus and Centennial Campus will participate with tours, displays and information sessions for students, parents and guests. Buses will run continuously between the two campuses. Online pre-registration is available at [www.engr.ncsu.edu/openhouse/](http://www.engr.ncsu.edu/openhouse/). Registration on the day of the event will be in Talley Student Center on Main Campus, or in Engineering Buildings I and II on Centennial Campus. For more information, including parking locations, call 515-9669 or visit the Web site.

## Graduate research symposium set for March 21

The second annual NC State Graduate Student Research Symposium will be held on Wednesday, March 21, in the Talley Student Center Ballroom. A poster session will be held from 1:30-4 p.m., and will feature 77 presentations representing research being conducted in every college. The session will be followed by the presentation of research awards from 4-5 p.m. The primary goal of the symposium is to showcase the outstanding quality and diversity of graduate research at NC State. Undergraduates who are interested in applying to graduate school will benefit from talking to these graduate students about their research, and perhaps gain ideas as to how to present their research at conferences at which they may participate in the future. The agenda, abstracts and additional information on the symposium may be found at [www.fis.ncsu.edu/grad\\_fellows/symposium/](http://www.fis.ncsu.edu/grad_fellows/symposium/).

## Federal Work Study information session planned

A Federal Work Study information meeting will be held on Thursday, March 22, from 10-11 a.m. in the Talley Center Ballroom. Anyone interested in hiring students during the 2007-08 academic year should attend. For information, e-mail [nell\\_summerlin@ncsu.edu](mailto:nell_summerlin@ncsu.edu) or call 513-2574.

## DELTA's Summer Institute accepting applications

The Teaching and Learning with Technology Summer Institute for Faculty, which is offered annually by NC State’s Distance Education & Learning Technology Applications (DELTA) unit, is accepting applications through April 17.

Now in its ninth year, the Summer Institute is designed for faculty who aspire to support student learning through the effective use of technology. Acceptance to the Summer Institute is competitive. Accepted faculty will participate in intensive workshops, lunchtime seminars and lab sessions spread over one week, with some online pre-work and reading required. In addition to learning new ways of teaching the use of technology in a low-key environment, meeting like-minded colleagues from across campus, and hearing exemplary lunchtime speakers, each participant receives more than \$300 worth of software licenses and materials.

Morning and afternoon institute sessions are available during the week of May 14-18. Seating is limited and likely to fill up quickly. To learn more about the institute or register, visit [http://delta.ncsu.edu/summer\\_institute](http://delta.ncsu.edu/summer_institute).

## CALENDAR

## March-April

## 16 Friday

**Baseball Game**

Wolfpack vs. Virginia Tech, 3 p.m., Doak Field

**Statistics Seminar**

"Change-Point Estimation Under Adaptive Sampling," Dr. Moulinath Banerjee, University of Michigan, 3:35 p.m., 206 Cox Hall

**Gymnastics Meet**

Wolfpack vs. University of Pittsburgh, 7 p.m., Reynolds Coliseum

**Center Stage Concert**

Anoushka Shankar, Indian classical sitarist, 8 p.m., Stewart Theatre. Tickets are \$32-\$36, <http://ticketcentral.ncsu.edu> or 515-1100

## 17 Saturday

**Baseball Game**

Wolfpack vs. Virginia Tech, 2 p.m., Doak Field

**Music@NC State Concert**

Ladies in Red, 7 p.m., Stewart Theatre. Tickets are \$10 <http://ticketcentral.ncsu.edu> or 515-1100

## 18 Sunday

**Baseball Game**

Wolfpack vs. Virginia Tech, 1:30 p.m., Doak Field

## 19 Monday

**Ag/Resource Economics Seminar**

Dr. Elias Dinopoulos, University of Florida, 3 p.m., 4210 Nelson Hall

**Harrelson Lecture**

"How Humans Can Cause Global Climate Change," Dr. Ralph Cicerone, National Academy of Sciences, 3 p.m., Stewart Theatre

**Horticultural Science Seminar**

"The North Carolina Turfgrass Center," Dr. Rick Brandenburg, NC State, 3 p.m., 121 Kilgore Hall

**Behavioral Biology/Genetics Seminar**

"Fish & Chips: An Integrative Approach Towards Understanding Social Dominance," Dr. Hans Hofmann, University of Texas, 4 p.m., 101 David Clark Labs

**Physics Colloquium**

"Dynamics of Accessing DNA," Dr. Michelle Wang, Cornell University, 4 p.m., 206 Cox Hall

**CHASS Lecture**

John W. Pope Lecture, "Simple Rules for a Complex World," Richard Epstein, University of Chicago, 7 p.m., Nelson Hall Auditorium

**Union Activities Board Lecture**

Jim Ellis, subject of the upcoming film

## Calendar Submissions

Events sponsored by NC State groups and held on campus are published in the calendar. Submissions should state the time, date, place, sponsor and title of event, the name of the speaker and his or her affiliation, the admission cost and the name and telephone number of the contact person.

Send items to **Calendar Editor, NC State News Services, Box 7504, or fax to 515-2556**. The deadline is noon, Tuesday, 10 days before the publication date. For the April 6 calendar, the deadline is March 27.

For more information about *Bulletin* submission policies, visit:

[www.ncsu.edu/BulletinOnline/about](http://www.ncsu.edu/BulletinOnline/about).

"Pride," 7:30 p.m., Stewart Theatre. Tickets are \$10 for the general public; \$5 for non-NC State students; free for NC State students, faculty and staff, <http://ticketcentral.ncsu.edu> or 515-1100

## 20 Tuesday

**Plant Biology Seminar**

"Darwin Meets Nano," Dr. Robert Austin, Princeton University, 4 p.m., 101 David Clark Labs

## 21 Wednesday

**Men's Tennis Match**

Wolfpack vs. Wake Forest University, 2 p.m., J.W. Isenhour Tennis Center

**Women's Tennis Match**

Wolfpack vs. University of North Carolina-Charlotte, 2:30 p.m., J.W. Isenhour Tennis Center

**Soil Science Seminar**

"Mechanisms of Phosphate Bonding to Soil Organic Matter," Dr. Dean Hesterberg, NC State, 3:40 p.m., 2215 Williams Hall

**Zoology Seminar**

Brandt Lecture, Dr. Ray Hilborn, University of Washington, 3:45 p.m., 101 David Clark Labs

## 22 Thursday

**Zoology Seminar**

"Habitats of Estuarine Dependent Fishes: Insights From Acoustic Telemetry," Dr. Ken Able, Rutgers University, 3:45 p.m., 101 David Clark Labs

**College of Education Event**

Peter H. Martorella Colloquium, featuring keynote speaker Dr. Jim Clark, NC State emeritus, 4 p.m., Friday Institute

**Biochemistry Seminar**

2007 Matrone Lecture, "The Genetic Code Revisited – Four Decades After Francis Crick," Dr. Dieter Soll, Yale University, 4:45 p.m., 222 Dabney Hall

## 23 Friday

**College of Management Event**

ERM Roundtable, Leslie Lamb, Cisco Inc., and Rob Rolfsen, Safety and Security, 7 a.m., McKimmon Center. Free, but registration required. RSVP information at <http://mgt.ncsu.edu/erm/register.php>

**Men's Tennis Match**

Wolfpack vs. University of Virginia, 2 p.m., J.W. Isenhour Tennis Center

**Logic and Cognitive Science Seminar**

"Ruthless Reductionism and Social Cognition," Dr. John Bickle, University of Cincinnati, 4:30 p.m., 140 Withers Hall

**CVM/Design/Libraries Event**

Lecture by Karsten Heuer, wildlife biologist and author of the book, "Being Caribou," 6 p.m., Campus Cinema

## 24 Saturday

**Music@NC State Concert**

Grains of Time, 7 p.m., Stewart Theatre. Tickets are \$10, <http://ticketcentral.ncsu.edu> or 515-1100

## 25 Sunday

**Men's Tennis Match**

Wolfpack vs. Virginia Tech, 1 p.m., J.W. Isenhour Tennis Center

## 26 Monday

**Entomology Seminar**

Dr. Russ Groves, University of Wisconsin, 11:15 a.m., 2405 Williams Hall

**Genetics Seminar**

"Why Have Sex? The Population Genetics of Sex and Recombination," Dr. Sally Otto, University of British Columbia, 1:30 p.m., 2215 Williams Hall

**Horticultural Science Seminar**

"Biltmore: The Ultimate in Agri-Tourism," Jerry Douglas, The Biltmore Co., 3 p.m., 121 Kilgore Hall

**Environmental Engineering Seminar**

"Advancing the Art of Microbial Risk Assessment," Dr. Joan Rose, Michigan State University, 4 p.m., 216 Mann Hall

**Physics Colloquium**

Dr. Stephen Bruenn, Florida Atlantic University, 4 p.m., 206 Cox Hall

## 27 Tuesday

**Plant Biology Seminar**

"Effect of Biodiversity on Carbon and Nutrient Cycling in a Tropical Rainforest," Dr. Deborah Lawrence, University of Virginia, 4 p.m., 101 David Clark Labs

## 28 Wednesday

**Softball Games**

Wolfpack vs. East Carolina University, 3 p.m. doubleheader, Walnut Creek Softball Complex

**Soil Science Seminar**

"Soil Reduction Rates Under Saturated Conditions as Affected by Various Soil Properties," Amanda Zelasko, NC State, 3:40 p.m., 2215 Williams Hall

**Baseball Game**

Wolfpack vs. University of North Carolina-Greensboro, 6 p.m., Doak Field

**Dance Company Event**

DanceVisions Spring Concert, 8 p.m., Stewart Theatre. Tickets are \$8, <http://ticketcentral.ncsu.edu> or 515-1100

## 29 Thursday

**Zoology Seminar**

"Disentangling Ecological Complexity: Food Web Research in a Species-Rich Tropical River," Dr. Kirk Winemiller, Texas A&M University, 3:45 p.m., 101 David Clark Labs

**Biochemistry Seminar**

Cheng Wang, NC State, 4 p.m., 128-A Polk Hall

## 30 Friday

**Statistics Seminar**

"Variable Selection with Structure Constraints," Dr. Ji Zhu, University of Michigan, 3:35 p.m., 206 Cox Hall

## 31 Saturday

**Women's Tennis Match**

Wolfpack vs. University of Maryland, noon, J.W. Isenhour Tennis Center

## 1 Sunday

**Women's Tennis Match**

Wolfpack vs. Boston College, noon, J.W. Isenhour Tennis Center

## 2 Monday

**Ag/Resource Economics Seminar**

Alejandro Justiniano, The Federal Reserve Board, 3 p.m., 4210 Nelson Hall

**Horticultural Science Seminar**

"Center for Environmental Farming – Ten Years of Programs," Dr. Nancy Creamer, NC State, 3 p.m., 121 Kilgore Hall

**Physics Colloquium**

L.H. Thomas Lecture, "The Discovery of Superfluidity in Helium-3," Nobel Prize-winner Dr. David Lee, Cornell University, 4 p.m., 124 Dabney Hall

## 3 Tuesday

**Ag/Resource Economics Seminar**

"Toward an Optimal U.S. Ethanol Fuel Subsidy," Michael Wetzstein, University of Georgia, 3 p.m., 4210 Nelson Hall

**Plant Biology Seminar**

"Forest Physiology and Productivity Are of Central Importance to Global Environmental Change," Dr. John King, NC State, 4 p.m., 101 David Clark Labs

**Arts Now Series Concert**

Bremen Clarinet Quartet, 7 p.m., Talley Student Center Ballroom. Tickets are \$10, <http://ticketcentral.ncsu.edu> or 515-1100

## 4 Wednesday

**Men's Tennis Match**

Wolfpack vs. University of North Carolina, 2 p.m., J.W. Isenhour Tennis Center

**Soil Science Seminar**

"Soil Fertility Management in the Blacklands: Changing With the Times," Dr. Carl Crozier, NC State, 3:40 p.m., 2215 Williams Hall

**Baseball Game**

Wolfpack vs. East Carolina University, 6 p.m., Doak Field

## 5 Thursday

**Zoology Seminar**

Dr. Fred Gould, NC State, 3:45 p.m., 101 David Clark Labs

**Biochemistry Seminar**

"Comprehensive Metabolic Profiling for Understanding of Diabetes and Obesity Mechanisms," Dr. Chris Newgard, Duke University, 4 p.m., 128-A Polk Hall

## Ongoing

**Campus Cinema**

Movies are \$1.50 for students/faculty/staff and \$2.50 for the general public unless otherwise noted:

- "Happy Feet," March 16, 3 p.m. and 10 p.m.; March 17 and 18, 7 p.m.
- "The Good Shepherd," March 16, 7 p.m.; March 17 and 18, 9 p.m.
- "Pride," sneak preview, March 22, 7 p.m., free
- "The Last King of Scotland," March 22, 9:30 p.m.; March 24, 7 p.m.; March 25, 9 p.m.
- "Rocky Balboa," March 23, 9 p.m.; March 24, 9:30 p.m.; March 25, 7 p.m.
- "Masai: The Rain Warriors," March 26, 7 p.m., free
- "Children of Men," March 29, 7 p.m.; March 30 and April 1, 10 p.m.
- "Blood Diamond," March 29, 9 p.m.; March 30 and April 1, 7 p.m.
- "The Night of Truth," April 2, 7 p.m., free

**College of Design Exhibition**

"Architecture Teaching Fellows," through March 24, Brooks Hall Gallery

**Crafts Center Gallery Exhibit**

"A Show for Students," through Mar. 21, Crafts Center Gallery

**Gallery of Art & Design Exhibits**

"The Natural World" and "Exquisite Entomology: The Beauty of Bugs," through May 13, Gregg Museum of Art & Design

**"Les Liaisons Dangereuses"**

Presented by University Theatre, March 22-24 and 28-31, 8 p.m.; March 25, 3 p.m., Thompson Theatre. Tickets are \$14-\$16, <http://ticketcentral.ncsu.edu> or 515-1100

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Advancement in Science – one of the most prestigious American science awards – for his leadership on global environmental protection policy.

In 2001, at the request of President Bush, Cicerone led a National Academy of Sciences study on the state of climate change and its impact on the environment and human health. The American Geophysical Council honored Cicerone with the Roger Revelle Medal in 2002 for his research contributions to understanding the Earth's atmosphere. In 2004, the World Cultural Council honored him with the Albert Einstein World Award in Science.

The annual Harrelson Lecture is NC State's distinguished university lecture series and began in 1961. ■