

**Clemson University
Clemson, South Carolina**

MINUTES

of the Teleconference Meeting of

**THE CLEMSON UNIVERSITY BOARD OF TRUSTEES
President's Conference Room
201 Sikes Hall
Tuesday, September 24, 2002**

After notification as required by the Freedom of Information Act, the Chairman called the teleconference to order at 4:05 PM with the following members present: Lawrence M. Gressette, Jr., *presiding*; Bill L. Amick, J.J. Britton, Thomas C. Lynch, Jr., Louis B. Lynn, Patricia H. McAbee, Leslie G. McCraw, E. Smyth McKissick, III, Thomas B. McTeer, Jr., Joseph D. Swann, Allen P. Wood, W.G. DesChamps, Jr., Paul W. McAlister, and J. Thornton Kirby, *Executive Secretary*

ADMINISTRATION PRESENT: President Barker, Dori Helms, Debbie Jackson, Marvin Carmichael, and Cathy Sams

OTHERS PRESENT: Robin Denny, Anna Simon, *Greenville News*, Jean Scott, *Anderson Independent*, and Jeff Stensland, *The State*

Item 1. Introductions

Statement: Chairman Gressette called on Thornton Kirby for the roll call of Trustees and introduction of guests. Mr. Kirby completed the roll call, noted that a quorum of Trustees was present, and introduced all University and media guests in attendance. Chairman Gressette thanked the Executive Secretary and noted his appreciation to all present for their participation.

Chairman Gressette next called on Les McCraw to convene the Educational Policy Committee for the purpose of considering several action items. Mr. McCraw thanked the Chairman and called the Educational Policy Committee to order at 4:07 PM.

Following the meeting of the Educational Policy Committee, Chairman Gressette reconvened the meeting of the full Board at 4:41 PM and called on Mr. McCraw for the Committee's report.

Item 2. Educational Policy Committee

Statement: Mr. McCraw reported that the Committee had considered two new degree programs and three new academic centers.

A. B.S. Degree in Genetics

Statement: In 2001, as part of a series of strategic academic unit reorganizations, Clemson formed a new Department of Genetics and Biochemistry. Biochemistry had previously been housed in the Department of Biological Sciences, and various faculty members interested in genetics were scattered among a number of agriculturally related departments. The new department includes nine faculty members at Clemson and eight adjunct faculty members at the Greenwood Genetic Center. It offers the B.S., M.S., and Ph.D. degrees in biochemistry, and the M.S. and Ph.D. degrees in genetics. The Administration proposes:

- to establish a B.S. degree program in Genetics;
- to coordinate the curriculum with the genetics emphasis within the biology program at Lander University; and
- to cooperate with Lander University to share the undergraduate research opportunities at the Greenwood Genetic Center and at Clemson and Lander Universities among all students.

The Administration expects that the proposed B.S. degree program in genetics will attract students not only from South Carolina, but from across the nation as well. The Provost expects this program will be especially attractive to students who are interested in the life sciences and who wish to enter professional schools (medical, dental, or veterinary), graduate schools, or the biotechnology arena. The Provost anticipates that about 15 students will initially enroll in this new program, and she expects there will be at least 100 students enrolled in the program after five years. There is currently no undergraduate B.S. degree program in genetics in the state of South Carolina.

B. M.S. Degree in Environmental Health Physics

Statement: The Administration proposes to establish a new degree based on an existing course of study in the Department of Environmental Engineering & Science at Clemson University. The Department of Environmental Engineering & Science currently offers a degree titled Master of Science in Environmental Engineering and Science. Students who graduate with this degree may specialize in one of six focus areas, including the nuclear environmental focus area. The new proposal would establish a degree titled Master of Science and Environmental Health Physics for students who study in a specific focus area. All degree requirements for the new degree program will be the same as currently required for the existing nuclear environmental focus area. The Provost plans to implement this new program in the spring of 2003.

Since 1995, 39 students have graduated with a Master of Science in Environmental Engineering & Science, having followed the nuclear environmental focus area. Currently there are approximately 12 M.S. and Ph.D. students pursuing the nuclear environmental focus area. Given the extension of nuclear power reactor operating licenses in the state

and nation, the fact that 65% of the electrical energy production in South Carolina is from nuclear plants, the possible expansion of nuclear energy production in the nation, the mission of the Savannah River Site to process excess plutonium, and the increased recognition of natural radioactivity (uranium, radium, and radon) in the state's groundwater, the Provost anticipates an increasing interest in the nuclear environmental option. With the current faculty and laboratory infrastructure, Clemson has the capacity for 24 students in the degree program.

There currently are no undergraduate health physics or environmental health physics programs in South Carolina. Three related academic programs in the state complement Clemson's proposed degree program. The Department of Physics at Francis Marion University offers an undergraduate health physics specialty degree, and South Carolina State offers an undergraduate nuclear engineering degree. Both of these programs can serve as feeders into Clemson's graduate program. A new doctoral program in nuclear engineering in the Department of Mechanical Engineering at the University of South Carolina is focused on nuclear reactor engineering and does not have an environmental health physics component.

As the purpose of this proposal is to assign a new degree name based on an existing course of study, there will be no changes in the relationships that currently exist. No new courses will be needed to offer this degree. The only new costs are a minimal increment in administrative effort and the cost of accreditation. Accreditation cost is estimated to be \$5000 for the site visit (every six years) and \$1000 for annual maintenance fee.

C. Center for Safety Research and Education

Statement: In order to address the increasing national concern for safety and health issues, Clemson University has the opportunity to become the first land-grant institution in the nation to have a Center for Safety Research and Education. Statistics show that an inordinate number of individuals engage in unhealthy behaviors that can significantly impair their current health and can affect their lifetime health and safety status. According to the Centers for Disease Control, six types of safety and health risk behaviors cause the most serious problems that afflict the United States. These include: (1) unintentional and intentional injuries, (2) alcohol and drug use, (3) sexual behaviors, (4) tobacco use, (5) dietary patterns, and (6) physical inactivity.

The Center for Safety Research and Education will develop, demonstrate, and evaluate healthy lifestyles education initiatives; conduct action research; and collect, analyze and disseminate research to improve the safety and health of our citizens. The Center will utilize a staff of faculty specialists and University personnel in a collaboration of all Public Service Activities and the five colleges of Clemson University. The mixture of core disciplines with applied professions in the University will provide both depth and breadth in research and learning. This structure will provide students, faculty and staff with skills that address complex and interconnected challenges of the future, when it will no longer be possible for these safety and health risk behaviors to be solved by a single discipline or profession.

Since the proposed Center for Safety Research and Education is not designed to be a degree-granting unit within Clemson University, it will not have a core curriculum. Instead, the Center will develop initiatives such as the Cruisers Program (a life skills curriculum that will empower youth to act responsibly and to make better decisions for their lives and the lives of others) and the College Lifesavers Conference (designed to increase students' awareness of traffic safety issues, the role alcohol can play in making the road unsafe, and the prevention of underage drinking).

D. South Carolina DNA Learning Center

Statement: In recent years there has been an explosion in new genetic technologies. It follows that educators must be able to communicate with their students and the public about the nature of genetic engineering. Because this area is so new, however, most high school biology and agricultural education teachers have received little formal education about molecular genetics or the techniques and issues of biotechnology. Clemson University is uniquely situated to provide accurate, easily understandable, and non-biased training to these educators, in part because of its land-grant tradition and in part because of a recent partnership with Cold Spring Harbor Laboratory. Cold Spring Harbor Laboratory is the world wide pre-eminent producer of educational materials in recombinant DNA technology and human genomic biology. The Cold Spring Harbor Laboratory Dolan DNA Learning Center has offered to assist Clemson:

- to establish a South Carolina DNA Learning Center with a focus on plant genomics;
- to jointly develop and disseminate educational materials; and
- to collaborate with Clemson in appropriate academic conferences and business partnerships.

Clemson University brings to the partnership expertise in plant biotechnology, extensive experience in educating rural audiences, and existing dissemination networks in agricultural extension, high school education, and elementary education. These complement the Cold Spring Harbor Learning Center focus on human genetics with its heavily urban/suburban audience. In establishing the South Carolina DNA Learning Center, Clemson will draw on the unique combined strengths of the Clemson University Genomics Center, the Genetics and Biochemistry faculty (including those at the Greenwood Genetic Center), exceptional science education outreach programs, associations with the State Systemic Initiative for Math and Science Education, and the non-formal education programs provided statewide by the Cooperative Extension Service. The South Carolina DNA Learning Center will also collaborate with the Greenwood Genetic Center Biotechnology Incubator and Lander University, which has an undergraduate emphasis area in genetics.

E. Center for Nuclear Environmental Engineering Sciences and Radioactive Waste Management

Statement: South Carolina needs to be better prepared to address environmental issues associated with nuclear activities in the state, with radioactive contamination, and with radioactive waste management. Four major areas must be addressed, including the disposition of weapons grade material and remediation of contaminated sites; commercial nuclear power generation; radioactive waste disposal; and naturally occurring radioactivity. South Carolina is among only a few states that must address all four of these concerns. The state is the location of the Department of Energy's Savannah River Site; it has four commercial nuclear power facilities (containing a total of seven nuclear reactors) that provide approximately 65% of the state's electricity; it has one of only three commercial facilities in the country for the disposal of low-level radioactive waste; large areas in the western part of the state lie in a uranium-rich geological zone (as recently highlighted by the discovery of elevated uranium concentrations in groundwater); and radium is being discovered in private wells in the Midlands and the coastal plain.

The Administration proposes to establish a new Center for Nuclear Environmental Engineering Sciences and Radioactive Waste Management, which will be a functional unit within the College of Engineering and Science at Clemson University. The Center will be housed in the School of the Environment and associated with the Clemson Environmental Institute. The Center will serve as a focal point for research in the environmental aspects of nuclear technologies and naturally occurring radioactivity and radiation. The Center will offer no academic degree or courses. However, the staff and personnel of the Center will participate fully in the academic departments of the College of Engineering and Science.

Action: On behalf of the Educational Policy Committee, Mr. McCraw made a motion to approve the B.S. Degree in Genetics, the M.S. Degree in Environmental Health Physics, the Center for Safety Research and Education, the South Carolina DNA Learning Center, and the Center for Nuclear Environmental Engineering Sciences and Radioactive Waste Management. Dr. Britton seconded the motion, and the vote of approval was unanimous.

Item 3. Adjourn

Statement: There being no further business, Dr. Lynn made a motion to adjourn and the teleconference meeting was concluded at 4:45 PM.

Respectfully submitted,

J. Thornton Kirby
Executive Secretary to the
Board of Trustees