# NEC EARNS $650,000 GRANT

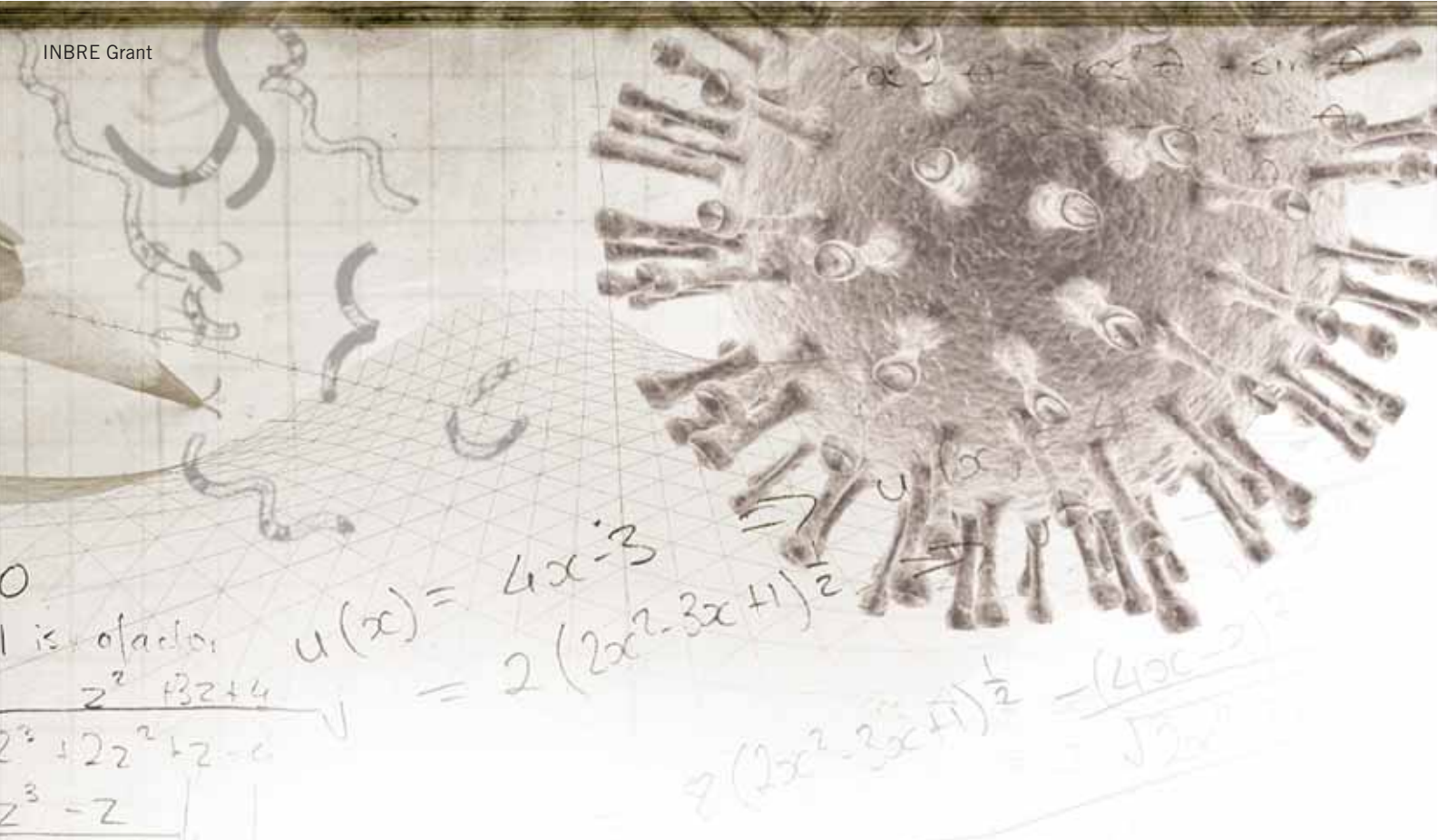
## THREE PROFESSORS TO CONDUCT BIOMEDICAL RESEARCH

Three New England College professors have received a grant from the National Institutes of Health (NIH) as part of a $15.4 million award to ten institutions of higher education in the State of New Hampshire. The grant makes it possible to upgrade the College's science facilities, provide training for both students and faculty, and for faculty and students to conduct biomedical research.

NEC research investigators Dr. Lori Bergeron, Assistant Professor of Biology, Dr. James Newcomb, Assistant Professor of Biology, and Dr. Heather Chabot, Associate Professor of Psychology, will have the opportunity to continue their specific research projects with additional resources, and to involve undergraduate students in their work over the academic year and the summer break.

The grant establishes the New Hampshire Idea Network of Biological Research Excellence known as INBRE, and allows for a statewide collaboration of institutions of higher education that includes: Dartmouth Medical School; the University of New Hampshire; Plymouth State University; Keene State College; New England College; Colby-Sawyer College; St. Anselm College; Franklin Pierce University; River Valley Community College; and Great Bay Community College.

"The INBRE grant is a direct reflection of the New England College mission to support engaged learning for our undergraduate students," states President Michele Perkins. "This is an opportunity for our College to enhance the culture of research on our campus, to sustain the important research projects currently pursued by our faculty, and to provide opportunities to engage in research that would lead to potential careers in biomedical research for our students."



# RESEARCHING THE PUZZLE

## DR. LORI BERGERON EXPLORES THE EFFECTS OF BACTERIA ON HEALTH

"Biology is like a puzzle," notes Dr. Lori Bergeron, Assistant Professor of Biology. "I've always liked puzzles. No one knows the answers to the questions that I have proposed. As our research uncovers information, we start to put the puzzle pieces together. It's a fascinating process!"

Specializing in microbiology, Dr. Bergeron is currently studying a bacterium known as *Actinomyces naeslundii*, that thrives on surfaces in the mouth and is a member of a living community referred to as a biofilm. Although *A. naeslundii* is not generally thought to be harmful to humans, studies have shown that the bacteria are part of dental plaque and perhaps contribute to periodontal disease. Dr. Bergeron's research is aimed at determining how genes involved in disease get turned on and off. Recent studies have shown a connection between poor oral health and cardiovascular disease. The questions posed by Dr. Bergeron may have implications not only for dental diseases but for cardiovascular diseases as well.

Students in Dr. Bergeron's "Genetics" class have also been involved in the research on *A. naeslundii* . "I could have given them a 'canned lab' with a pre-determined outcome," notes Dr. Bergeron. "But science doesn't work that way. By conducting research where the answers are not already known, students have to troubleshoot. That translates into a classroom environment with a direct correlation to real scientific inquiry."

The equipment and materials used to conduct Dr. Bergeron's research are expensive. Through the INBRE grant, New England College will make substantial improvements to the College's classroom and laboratory facilities, allowing students to conduct more sophisticated research projects. "The enhanced facilities will have great appeal to students interested in the biomedical sciences or who are looking to pursue graduate programs in the sciences," notes Dr. Bergeron. Laboratory renovations, expected to be completed for the spring semester, include additional equipment, cabinets, and workspaces, some of which will meet ADA requirements.

Not only will the grant allow New England College to upgrade its science laboratories, student and faculty researchers will also have the opportunity to use facilities at Dartmouth College and the University of New Hampshire. Dr. Bergeron has been working closely with Dr. George O'Toole, Associate Professor of Microbiology and Immunology at Dartmouth Medical School, who specializes in the study of biofilms.

According to Dr. Bergeron, the INBRE grant awarded by the National Institutes of Health seeks to encourage research that furthers the knowledge of public health and that has the potential to benefit society. As she observes, "The INBRE grant will go a long way in supporting research professionals to do work that is beyond the call of the classroom. It's hard to get money if you don't already have it. For investigators like us, the INBRE grant puts us in a better position to apply for additional grants in the future."