

Microbiology Work 'Highly Concentrated'

Twenty-four persons from throughout the United States are participants in North Carolina College's five-week Summer Institute in Microbiology for College Teachers of Biology, Microbiology, or Bacteriology directed by Dr. Nell Hirschberg, professor of biology at NCC.

The course, supported by a \$29,370 grant from the National Science Foundation, an agency of the federal government, is designed as a "review of general and applied microbiology to upgrade the teaching of microbiology by stressing the fields which are changing most rapidly: microbial physiology, genetics and immunology."

In addition to Dr. Hirschberg, who is teaching basics of general microbiology, other members of the staff, and subjects taught, are Dr. Harry Gooder, Department of Microbiology, University of North Carolina, microbial genetics; Dr. John Schwab, Department of Microbiology, University of North Carolina, immunology; Dr. Robert Wheat, Department of Biochemistry, Duke University Medical Center, microbial physiology; and Dr. Michael John Phillip, De-

partment of Biology, John Carroll University, Cleveland, Ohio, applied microbiology.

Dr. Phillip, a native of Trinidad, West Indies, was one of eight holders of the earned doctorate who were participants in the institute last year. Six of the current enrollees have doctorates.

Each institute instructor teaches for one week during the five-week course. The work is highly concentrated, for, as Dr. Hirschberg said in a paper on the 1965 institute, read at a Los Angeles meeting of the American Society for Microbiology, "The material of the first two weeks covered all of a standard textbook in college microbiology with the exception of two chapters: Immunology and Microbial Genetics. A minimum of two lectures were given daily and there were two laboratory sessions. In the laboratory, approximately three-fourths of a standard college course in microbiology was covered in the first two weeks."

Contending that "microbiology is the most important offshoot of molecular biology, since it is concerned with uncovering



The Summer Institute for College Teachers of Microbiology

the meaning of life itself," Dr. Hirschberg stated, "We need to accept our responsibility" to prepare college teachers.

"At the moment," she declared, "it is the style to teach one course in elementary microbiology in most liberal arts col-

leges. This is all right for a starter, but the work needs to be expanded so that microbiology can take its rightful place in biology."

In the institute, North Carolina is represented by six participants, Pennsylvania by four,

and Missouri by three. The following states have one enrollee each: Michigan, Georgia, Ohio, Oregon, New York, Delaware, Texas, Massachusetts, Wisconsin, New Jersey and South Carolina.



MICROBIOLOGISTS IN ACTION—Photographs above show activities of participants in the NSF Institute for College Teachers of Microbiology. TOP ROW, FROM LEFT: Dr. Nell Hirschberg director of the institute, demonstrates cultures to three of the Ph.D. participants and to Dr. C. L. E. Monroe, special lecturer for the week;

three participants perform microbial growth curve techniques; Dr. Michael Phillip, assistant director of the institute, explains the use of different types of culture tubes to six participants who hold the doctor's degree. MIDDLE, FROM LEFT: Dr. Hirschberg demonstrates fermentation tubes; a group discusses density of growth;

Sister Eymard demonstrates types of cultures to three other participants. BOTTOM, FROM LEFT: Dr. Phillip discusses the measurement of growth; three participants discuss microbiological techniques; Dr. Phillip demonstrates the measurement of density with the Klett instrument while four other participants look on.