

# Summer Science Institute

During the seventh week of the Summer Institute for High School Teachers of Chemistry, Physics, and Mathematics, the fifty-five participating teachers were asked for an anonymous written evaluation of the program that had one more week to go. Approximately 80 per cent of the teachers responded that the Institute had met or exceeded their expectations.

A high proportion of the participants also felt that the courses were meeting their needs and interests very satisfactorily. The program was providing a new insight into the three fields, and this would be a definite help in their classrooms this year, these teachers wrote. It developed that they would have contact with about 5,900 high school students during the year. Thus, any good which the Institute staff was able to impart to the teachers could be multiplied a hundred fold.

Several of the participating teachers stated that the Institute was the best summer school experience they had ever had, and they rated the Institute courses as "tops." They also valued their associations with their professors and the other students.

The main purpose of the Institute was to provide the high school teachers with greater depth and breadth of training in the physical sciences and mathematics. A summary of the evaluations indicates the mission was accomplished in good measure.

The University, by holding the Institute during the past summer, took its place with a number of other universities in a united effort to improve high school instruction in the sciences and mathematics. The eight-weeks program, formulated during the summer of 1956, was submitted to the National Science Foundation in a proposal requesting funds for its support. Last December the University was informed that it had been awarded a grant of \$61,700 to conduct the Institute. Under this grant fifty-five NSF stipends were to be made available to teachers from Missouri and the seven states that adjoin it.

Availability of the stipends was widely publicized among high school teachers in these states, and applications were received from 239 teachers. When the Executive Committee made its final selections, Missouri had 38 of the successful applicants, Illinois 7, Kentucky 3, Iowa and Oklahoma 2 each, Tennessee, Arkansas, and Nebraska 1 each. The average age of the Institute members was 38. There were 45 men and ten women.

The participants were allotted \$600 each, plus \$120 for each dependent up to a maximum of four, and a

maximum of \$80 for travel expenses. The average allotment was \$953.98.

Dr. Wesley J. Dale, associate professor of chemistry, was director of the Summer Institute.

Special Institute courses were taught by Dr. G. Myron Arcand, assistant professor of chemistry; Dr. Louis V. Holroyd, associate professor of physics and chairman of the Department of Physics; and Dr. Leonard M. Blumenthal, professor of mathematics.

The physics course and the chemistry course met for a total of ten hours each week for lectures, discussions, demonstrations and laboratory work. The mathematics course, which did not include laboratory or demonstration work, met for eight hours each week. A majority of the participating teachers took two of the Institute courses. The Graduate School credit load varied from seven to nine academic hours, depending upon the individual programs.

A popular feature of the Summer Institute was the series of evening lectures by outstanding authorities brought to the campus. The six speakers and their subjects were:

Dr. Hubert Alyea, professor of chemistry, Princeton University, "Atomic Energy—Weapon for Peace"; Dr. Edward U. Condon, professor of physics, Washington University, "Ought Nuclear Bomb Tests to Be Stopped?"; Dr. R. H. Bing, professor of mathematics, University of Wisconsin, "Famous Problems—Solved and Unsolved"; Dr. Harry Sello, Shockley Semiconductor Laboratory, California, "A Visit to Chemistryland or Through the TV Tube"; Dr. Claude E. Shannon, professor of communication sciences, M.I.T., "Electronic Computers"; and Dr. George Pake, professor of physics, Stanford University, "The Magneto-Gyroscopic Properties of Electrons and Atomic Nuclei."

Heading the Executive Committee of the Summer Institute was Dr. Edward M. Palmquist, associate dean of the College of Arts and Science, who has had extensive experience with the operation of such programs. For eighteen months prior to September, 1956 he was on leave from the University to serve in Washington with the National Science Foundation as Program Director for Education in the Sciences.

In their evaluation, the participating teachers gave endorsement to the University's instructional and recreational facilities, the living accommodations and eating arrangements. Most of them lived in Defoe Hall with their families and had their meals in a group at the Student Union.