N.B.C. has established a budget of more than $300,000 to produce and feed programs to the educational TV stations.

The series on mathematics will feature lectures by college professors and other specialists. Five of the people who have already agreed to lecture on mathematics are Claude E. Shannon of Bell Telephone Laboratories, Inc., Morris Kline of New York University, Allen V. Astin of the National Bureau of Standards, Mina S. Rees of Hunter College, and Ernest Nagel of Columbia University. James Newman, author of *The World of Mathematics,* will supervise, design, and participate in the mathematics programs.

High-School Physics in an Industrial Community

The proceedings of the Conference on the Need for High School Physics in an Industrial Community, edited by W. C. Kelly, may now be obtained for a small charge from the University of Pittsburgh Press. This timely conference, which took place last January, was jointly sponsored by the University of Pittsburgh and the National Academy of Sciences–National Research Council.

Nearly 3 Million Students Enrolled

Some 2,947,000 students enrolled last fall in 1852 institutions of higher education, according to the annual fall enrollment survey of the Office of Education, Department of Health, Education, and Welfare. Additional enrollments during the school year are expected to bring the total to approximately 3¼ million, an all-time high.

The ten institutions reporting the largest enrollments this year are as follows: University of California, all campuses, but excluding extension enrollment, 40,788; University of Minnesota, all campuses, 36,303; New York University, 31,203; City College of New York, 28,178; State University of New York, all campuses, but excluding the agricultural and technical institutes, 27,566; Columbia University, 26,966; University of Illinois, 26,741; University of Michigan, 25,153; University of Wisconsin, all campuses, 24,442; and Ohio State University, 22,470.

College enrollments increased for the fifth consecutive year, the survey showed. There were 39.2 percent more students enrolled than in 1951. Enrollment figures were 10 percent higher this year than last year, the previous high. Nearly two-thirds (1,928,000) of the total number of students were men.

Total opening enrollment in separately organized professional schools (other than teachers colleges and technological and theological schools) gained 19.3 percent over 1955. Teachers colleges enrolled 13.5 percent more than in 1955; technological schools, 13.4 percent more; junior colleges, 12.7 percent more; liberal arts colleges, 9.6 percent more; universities, 8.5 percent more; and theological schools, 2.3 percent more.

The number of students who enrolled for the first time in a college or university was a record 723,000. This was 7.1 percent above first-time enrollment in 1955 and 53.2 percent more than in 1951. The greatest increase in first-time opening enrollments was in junior colleges, with a gain of 16.5 percent over 1955. Increases also were reported for technical schools, 14.4 percent; "other professional schools," 9.6 percent; universities, 6 percent; teachers colleges, 4.1 percent; and liberal arts colleges, 2.3 percent.

Although relatively few women enroll in technical schools, their number increased 41.5 percent over 1955. A decrease of 5.5 percent in first-time students was reported by theological schools.

Total enrollment in higher education was about one-third more in Nevada (gain of 34.1 percent) than in 1955. Other states with large increases included South Dakota, 21.7 percent; Maine and New Mexico, each 19.9 percent; and Rhode Island, 19.2 percent. Nevada reported a 63-percent increase in first-time enrollment. Large gains were also reported for South Dakota, 22.4 percent; Indiana, 20.4 percent; California, 18.5 percent; and Oklahoma, 16.1 percent.

First-time enrollment declined 2 percent or more in New York (6.4 percent), Oregon (3.6 percent), Wisconsin (2.7 percent), Rhode Island (2.1 percent), and Florida (2 percent). The survey findings are reported in the January 1957 issue of *Higher Education* and in Office of Education Circular No. 496, *Opening (Fall) Enrollment in Higher Educational Institutions 1956.*

Cornell Aeronautical's Wind Tunnel

The 1000-mile-an-hour wind tunnel at Cornell Aeronautical Laboratory has resumed test operations following a 5-month, $2,225,000 modification program. The 32,000-horsepower tunnel is capable of testing aircraft, missiles, and propellers at speeds up to 1.3 times the speed of sound and at varying pressures (from 1/6 to 2 1/2 atmospheres). The tunnel's new 8- by 8-foot test section has perforated walls that permit accurate performance measurement on models at transonic speeds.

Automatic data-recording and computing equipment has been set up at the laboratory, so that now test data can be processed within minutes after measurements are taken on a model in the wind tunnel, an operation that previously required up to 48 hours.

Dental Association Survey

The American Council on Education this spring will begin a survey of dentistry in the United States at the request of the American Dental Association. The project will extend over 2 years and will cost $400,000. The objective of the program is to assess the achievements, resources, and potentialities of dentistry in the United States; to determine desirable areas of future development; and to recommend methods for the better provision of service. The work will be supported by grants from the Kellogg Foundation, the American Dental Association, the Rockefeller Brothers Fund, and the Louis W. and Maud Hill Family Foundation.

The survey will center on four areas —dental education, dental research, dental practice, and dental health. A national commission, composed of representatives of such groups as education, management, labor, medicine, and dentistry, is being appointed by the American Council on Education to conduct and administer the program.

Master's Degree Courses for High-School Physics Teachers

A conference on physics in education was held in New York last summer under the joint sponsorship of the Fund for the Advancement of Education, the American Institute of Physics, and the American Association of Physics Teachers. The major part of the discussion was devoted to providing more and better physics teaching at the secondary-school level. As one of its conclusions, the conference adopted the following resolution:

"*WHEREAS* the present situation of the physical sciences demands the attention and active support of the scientists in the college and university departments, and *WHEREAS* in the past those in the college and university departments have not fully cooperated with other groups in alleviating the difficulties

BE IT RESOLVED that the colleges and universities be urged to strengthen the program in the high schools by encouraging teachers in the secondary schools to take specially designed courses in physics which will bring to them the newer developments in physics and enable them to review the basic concepts and principles of physics. To bring the

teachers into such physics classes it is recommended that the courses be organized at the level of the teacher's preparation and with his needs in mind; that arrangements be made with the Graduate Schools and Departments of Education which will permit the use of credit in these courses toward the master's degree in Education. The courses should be taught by members of the departments of physics and should receive the active sponsorship of those departments."

Duke's Engineering Program

Duke University will inaugurate new programs of graduate study in civil and mechanical engineering next fall. The additional courses will augment graduate study courses in electrical engineering that were added last September. The new graduate engineering programs in the College of Engineering will each lead to the master of science degree.

Scientists in the News

EDGAR ANDERSON, Engelmann professor of botany at Washington University (St. Louis) and director of the Missouri Botanical Garden, has become curator of useful plants at the garden. A grant of $14,000 from the Guggenheim Foundation will allow him to explore the possibilities of extending his techniques for the measurement of variation to various kinds of organisms and various kinds of problems. Until April, he is the guest of the mathematics department at Princeton University, where he is working with John Tukey.

CLAUDIO ALVAREZ-TOSTADO, professor of physical sciences at Stanford University, is spending the current academic year on the faculty of the University of San Andres in La Paz, Bolivia, as a visiting professor of chemistry. His stay with the South American institution is being financed by the Department of State's International Educational Exchange Program.

HANS KRAESSIG, a German cellulose chemist who was associated for several years with Nobel laureate Herman Staudinger at the University of Freiburg, will head the new department of cellulose research at Industrial Cellulose Research Limited, Montreal, Canada, a subsidiary of the Canadian International Paper Company.

JOHN H. GAETH, former director of the Hearing Clinic at Northwestern University, has been named professor of speech and director of the Hearing Clinic at Wayne State University.

SAUL WINSTEIN, professor of chemistry at the University of California, is the Baker lecturer in chemistry at Cornell University for the spring term. He is lecturing twice weekly on "Neighboring groups, solvolysis, and rearrangement."

ROBERT C. JAMES, associate professor of mathematics at Haverford College, has been named professor and chairman of the mathematics department of Harvey Mudd College, Claremont, Calif. Coauthor with his father, Glenn James, of *A Mathematics Dictionary*, James has participated in studies administered by the Ford Foundation to discover ways of teaching college mathematics to selected high-school students. His research has included investigation of the implications of the existence of bases for Banach spaces.

IRVIN W. SIZER has been appointed head of the department of biology at the Massachusetts Institute of Technology. Sizer, who has taught physiology and biochemistry at M.I.T. since 1935, had been serving as executive officer and acting head of the department. He is well known for his studies of the fundamental properties and medical applications of enzymes.

F. W. SCHUELER has been appointed professor and chairman of the department of pharmacology at the Tulane University School of Medicine.

LLOYD J. ROTH has been named chairman of the department of pharmacology at the University of Chicago. He succeeds EUGENE M. K. GEILING, Frank P. Hixon distinguished service professor, who is retiring after 20 years as head of the department.

ARTHUR E. RUARK, Temerson distinguished service professor of physics at the University of Alabama, has been named chief of the controlled thermonuclear branch in the Division of Research, U.S. Atomic Energy Commission. He will administer the research program that is known as "Project Sherwood." He succeeds AMASA S. BISHOP, who recently became the commission's technical representative of the American Embassy in Paris.

Another AEC appointment is that of PAUL C. FINE as director of the Office of Operations Analysis and Planning. This office, which is a division of the general manager's office, is responsible for engineering and economic analysis of major technical programs and for coordinating long-range plans. Last year Fine, who joined the AEC staff in 1947, served as assistant to the late John von Neumann.

THOMAS H. PIGFORD, associate professor of nuclear and chemical engineering at Massachusetts Institute of Technology, has joined the General Dynamics Corporation's General Atomic Division. He will be chairman of the department of reactor engineering of General Atomic's John Jay Hopkins Laboratory for Pure and Applied Science. Though he has specialized in the nuclear, mechanical, and chemical design of power reactors, Pigford also has worked in the fields of isotope separation, purification of special reactor materials, and reprocessing of irradiated nuclear fuels.

The Kresge–Hooker Science Library Associates and the department of chemistry at Wayne State University have announced the spring schedule for the Frontiers in Chemistry lecture series. The following guests will lecture at 7:15 P.M. in the Kresge Science Library Building (Detroit).

25 Feb., T. S. WHEELER, University College, Dublin, Ireland, "Unsolved problems in flavonoid chemistry"; 11 Mar., THOMAS SINGER, Edsel B. Ford Institute for Medical Research, Detroit, Mich., "Metal-flavoprotein catalysis"; 18 Mar., STANLEY BRUCKENSTEIN, University of Minnesota, Minneapolis, Minn., "Acid-base reactions in glacial acetic acid"; 22 Mar., E. R. H. JONES, Oxford University, Oxford, England, "Some aspects of allene chemistry"; 1 Apr., D. H. R. BARTON, University of Glasgow, Glasgow, Scotland, "Some recent advances in the chemistry of sesquiter-penoid lactones"; 15 Apr., MILTON BURTON, University of Notre Dame, Notre Dame, Ind., "Radiation Chemistry"; 29 Apr., MICHAEL J. S. DEWAR, Queen Mary College, University of London, London, England, "Aromatic substitution"; 6 May, RONALD S. NYHOLM, University College, London, England, subject to be announced.

HANS H. WEBER, director of the Institute of Physiology in the Max Planck Institute for Medical Research, Heidelberg, Germany, will deliver three lectures on "The motility of muscle and cells" in New York next month under the sponsorship of the Muscular Dystrophy Associations of America, Inc. The lectures have been scheduled as follows: 4 Mar., 5 P.M., Columbia Medical Center, "The phenomena and conditions in the interior of the muscle fiber during contraction and relaxation"; 6 Mar., 4 P.M., Rockefeller Institute for Medical Research, "Facts and theories concerning the mechanism of the contraction phase of the muscle"; 8 Mar., 5 P.M., New York University Washington Square Center, "The four mechanisms involved in the movement of cells."