News and Notes

Fifteenth Physics Colloquium

More than 100 college physicists from many parts of the nation gathered at the State University of Iowa June 17–20 for the 15th annual Colloquium of College Physicists and the Associated June Lectures, delivered this year by President E. U. Condon of the American Association for the Advancement of Science.

While Condon's talks on "Physics of the Glassy State" highlighted the colloquium activities, several other addresses were given by representatives of industrial and educational physics. The four-day meeting also featured an exhibit of teaching devices and publications prepared by the members.

Condon gave four lectures, on "Constitution and Structure," "The Transformation Range," "Strength of Glass," and "Radiation-Sensitive Glass." During the highly technical lectures, he urged the physicists to delve "more deeply and be richly awarded by learning for yourselves about the many fascinating and still unsolved problems of the 'Physics of the Glassy State'."

Dean Wooldridge, vice-president for research and development at Hughes Aircraft Company, urged the college physicists to try to channel some of their students into military work as they exercise the important function of helping the students to choose a career. "Whether we like it or not, many physicists are going to be involved in military work for a long time to come. . . . Nothing short of the attainment of real world harmony and the complete elimination of our military establishments can prevent this," he reminded.

He cited some of the disadvantages of military work, as well as the advantages, but pointed out that the military has long since "discovered science," and that the same economic considerations of modern warfare which make it easy for the physicist to develop useful ideas will make it correspondingly difficult to disentangle himself from military work.

"Inventive practical ideas worth following up are much easier to come by in the military than in commercial fields, because of the very direct manner in which modern scientific techniques may be brought to bear upon the most vital military operation," he concluded.

After hearing from President Austin N. Stanton of the Varo Manufacturing Company "that all students are creative," the teachers were presented with two relatively new theories for aiding this creativity among their students.

Stanton said most students have the five requisites for creativeness—inspiration, faith in themselves, tools, successful completion of projects, and the dignity and respect arising from recognition.

"Many tests have been devised to predict the potentials of young people, but I sincerely hope that none ever prove successful. . . . No one uses more than a small fraction of his mental capacity. Why should it be assumed that this fraction should be the same for any two individuals? . . . The one whose total mental capacity is smaller than his neighbor's might easily use a slightly larger fraction and surpass him in creative thinking and work."

S. W. Cram of Kansas State College introduced the theory that each student should be required to bring to his final physics examination a half-sheet of paper containing any information he wishes. "The use of the sheet helps to eliminate some of the strain on the student's nervous system, and it encourages the student to make a thorough review of the subject."

The "Cram Sheet's" greatest aid seems to go to the average student, particularly one who lacks confidence, poise and organizational ability, and formulating and using the sheet helps him to develop these very faculties, according to the professor.

Next, Ralph O. Kerman of Kalamazoo College, Kalamazoo, Mich., suggested that "It is desirable to have a physics experiment in which originality in the research spirit is stressed. . . . The student is presented with a problem and he is given no pointers on procedure. Such a method offers stronger student motivation and it makes the experiment a challenge, not a chore."

"Transistor Physics" were discussed by John R. Haynes of the Bell Telephone Company's laboratories, and "Crystals" by F. Hubbard Horn of General Electric Company. Samuel K. Allison of the University of Chicago lectured on "Atomic Physics."

Alexander Stern of Flushing, N. Y., discussed "Some Concepts of Modern Physics," and Dean Thomas H. Osgood of Michigan State College outlined the "Physics of Golf."

"Techniques and Applications of Neutron Diffraction" were described by M. K. Wilkinson, Oak Ridge National Laboratory.

The four-day meeting was sponsored by the National Science Foundation, the Research Corporation and the State University of Iowa. G. W. Stewart, professor-emeritus of physics at Iowa, was in charge of the colloquium.

Scientists in the News

Benjamin Alexander, an authority on blood-clotting and hemorrhage, has been appointed Associate Professor of Medicine on the Harvard University medical faculty. He will continue in his post of Associate Director of Medical Service at the Beth Israel Hospital, which is one of seven major teaching institutions affiliated with the Harvard Medical School.

John A. Behnke, Associate Administrative Secretary of the AAAS, has been appointed the Association's

representative on the Advisory Committee of the National Citizens' Committee for Educational Television. The appointment was made in response to an invitation from the Committee for active participation of the Association in its work.

Wallace R. Brode, Associate Director of the National Bureau of Standards and a member of the Board of Directors of the AAAS, has been appointed an Association representative to the Scientific Manpower Commission. He joins Detlev W. Bronk, retiring President of the AAAS, who is already serving.

At a ceremony held in Unesco House in Paris, **Julian Sorell Huxley** was awarded the Kalinga Prize in science writing. Dr. Huxley was nominated by both the Royal Society of Great Britain and the Institut de France. The jury was composed of Dr. M. N. Saha, Professor of Physics at the University of Calcutta, Professor A. J. Kluyver of the Technische Hogeschool of Delft, and Mr. Paul Gaultier, Member of the Institut de France and a well-known editor and publisher.

George C. Kennedy has left the Department of Geology, Harvard University, to accept an appointment as Professor of Geochemistry on the staff of the Institute of Geophysics, University of California at Los Angeles.

The Smithsonian Institution's oldest employee, **Andrew Kramer,** retired recently after nearly 61 years of service. Mr. Kramer is an instrument maker who has produced some of the most precise instruments known to science. He joined the Institution in 1892, and so was one of the small group who worked with Samuel P. Langley on his famous airplane and the models that preceded it. Ever since, Mr. Kramer has been associated with the Institution's Astrophysical Observatory, started by Secretary Langley. Much of the work has required the greater and greater refinement of such equipment as pyrheliometers and pyranometers, which measure extremely fine differences in solar heat radiation. Some of these instruments are sensitive enough to measure accurately the heat of a candle 20 miles away.

Mr. Kramer was concerned with the construction of instruments rather than with their design. Yet he thoroughly understood their theory and purpose and often devised methods to increase the precision of their measurements. One of his major achievements was the chamber for Abbot's water-flow pyrheliometer, said by the head of the German meteorological service to be the only standard of solar measurements in the world.

Brian H. Mason, formerly Associate Professor of Mineralogy at the University of Indiana, has been named Curator of Physical Geology and Mineralogy at the American Museum of Natural History, New York.

Edgar G. Miller, Jr., Professor of Biochemistry at Columbia University, has been appointed Dean of the graduate faculties.

Education

Columbia University has established a new Institute for the Study of Human Variation. It will seek to learn about man by observing the physical differences between individuals, and it is expected that information concerning the working of the human mind and body, and the mechanisms of evolution will be obtained. The Institute will provide for coordination of several sciences in the study of two basic problems: the nature of the biological factors responsible for variation in human beings, and the nature of the processes by which changes occur in animal populations, human and otherwise. Graduate courses will begin with the 1953 winter session. The staff of the Institute will comprise specialists at Columbia in the fields of genetics, zoology, anthropology, pediatrics, psychology, serology, and mathematical statistics, as well as experts from Great Britain, India, and Australia. Leslie C. Dunn, geneticist and Professor of Zoology at Columbia, will be Director. The Institute will be at the Morningside Heights campus; however, the resources of the Medical Center and several local hospitals will be used. Experimental work on non-human animal populations will take place at the university's Nevis Biological Station at Irvington-on-Hudson, and at the Genetics Laboratory in Schermerhorn Hall.

The **Stanford Laboratory,** Stanford University, has been reorganized as the W. W. Hansen Laboratories of Physics in honor of the late professor of physics. The laboratories will consist of two divisions, a microwave unit and a high-energy physics laboratory. Dr. Hansen, a pioneer in ultra-high frequency communications, died in 1949 at the age of 39.

University of Texas engineers are designing new supersonic wind tunnel equipment to simulate take-off conditions for high-speed aircraft. The equipment will allow scientists to determine in detail just how jet and rocket engines operate as an aircraft makes its take-off climb.

Construction of **Yale University's** new underground atomic laboratory has been completed and a 20,000,000 volt linear accelerator is scheduled to begin operation late this summer. Howard L. Schultz and Walter G. Wadey, Associate and Assistant Professors of Physics, are supervising installation of the new atom-blasting equipment.

Grants and Fellowships

The **Damon Runyon Memorial Fund for Cancer Research** made the following allocations totalling $197,830, for the month of June:

Grants

New York University-Bellevue Medical Center, $81,860 for a study under the direction of Norton Nelson, Associate Professor of Industrial Medicine, entitled "Cancer of the Respiratory System; from Environmental Sources—An Experimental Study of Cancer of the Lung and Other Parts of the Respiratory System Arising from Air Polution." The grant continues the project for a second year.

Polytechnic Institute of Brooklyn, $15,000 for a project under David Harker.

Columbia College of Physicians and Surgeons, $3,200 for a project being conducted by Raffael Lattes entitled "Cytochemical Studies of Nucleic Acid & Protein Synthesis in Cultured Cells During the Mitotic Cycle, with Particular Reference to the Effects of Certain Anti-Metabolites."

Yale University, $10,750 for a study now being carried on by the Chairman of the Department of Pharmacology, Arnold D. Welch.

The Dade County Cancer Institute, Miami, $7,800 for a project directed by C. G. Grand.

University of Minnesota School of Medicine, $15,000 for a re-study of operations on patients suffering with gastric, colic, and rectal cancer. Owen H. Wangensteen is supervisor of the project.

University of Louisville, $6,700 for continuance of a project under the direction of Harold F. Berg.

University of Colorado School of Medicine, $7,800 for a project, "Studies of Some Endocrinological Aspects of Neoplasia," being conducted by Robert Huseby under the supervision of Ward Darley, Dean of the Department of Medicine.

University of Washington School of Medicine, $12,700 for a project under the direction of Evarts A. Graham.

Michael Reese Hospital, Chicago, $13,500 for a project being conducted by Albert Tannenbaum, Director of the Department of Cancer Research.

Fellowships

T. C. Hsu, $5,000 for a project now under way at the University of Texas, Galveston.

Albert Schilling, $4,800 for a project at Harvard University and the Massachusetts General Hospital, Boston.

Jeanette C. Opsahl, $4,200 for a project at the University of Alberta, Edmonton, Canada.

Cyrus E. Rubin, $2,700 for the continuance of a project at the University of Chicago.

The **Mario C. Giannini Memorial Fund** has been established in honor of the late assistant dean of New York University's College of Engineering. Income from the fund will be used to provide an annual award, the form of which will depend on the final total of contributions, to a mechanical engineering graduate of the evening division who has demonstrated outstanding promise. Professor Giannini, a faculty member for 25 years, died in August, 1952.

The **National Foundation for Infantile Paralysis** has announced research and professional education projects amounting to $2,283,384. Of the total authorized, $762,380 was allocated for research seeking means of preventing the disease and for improved methods of treatment, and $1,521,004 for programs in professional education. This action brings to $50,000,000 the amount provided in March of Dimes funds since 1938 for the study of medical care problems, aid to professional education, and the support of polio research. Included in the professional education projects are four pilot studies "to integrate the concept and skills of complete medical rehabilitation" in the curricula of medical schools, to be conducted at The George Washington School of Medicine, University of Pennsylvania School of Medicine, New York University College of Medicine, and Cornell University Medical College.

The **National Fund for Medical Education** has awarded grants totaling $1,944,151 to 79 medical schools. The fund, established in 1949, is financed by gifts from corporations and the medical profession. Although the grants are unrestricted, they are primarily designed to enable schools to retain valuable personnel, fill teaching vacancies, create new faculty posts, and initiate teaching experiments. They will be apportioned at the rate of $20 for each undergraduate medical student, plus a lump sum of $15,000 for each of the 73 four-year schools and of $7500 for each of the six two-year basic medical sciences schools.

The **Procter & Gamble Company** has awarded 29 graduate fellowships at 19 universities, involving an expenditure of approximately $90,000, for studies in the fields of chemistry, chemical engineering, and mechanical engineering for the academic year 1953–54. These grants continue an established program of supporting the development of outstanding research men and further encouraging fundamental scientific investigations. The administration of the fellowships is handled completely by the participating schools as regards selection of students and specific fields of research, with no restrictions on publication or results. Normally, candidates in their final year of doctorate study are preferred, but this is not a necessary requirement. In addition to the fellowships, research grants totaling about $77,000 have been awarded to several universities to support the continuation of fundamental studies in the fields of biochemistry, analytical chemistry, radiochemistry, and medical research during the year 1953.

In the Laboratories

American Cyanamid Company's Calco Chemical Division is planning to build a $14,000,000 titanium dioxide plant on the outskirts of Savannah, Georgia. Construction will begin in the last quarter of this year and is expected to be completed early in 1955. The plant will occupy a 1600-acre tract of land extending along two miles of the south shore of the Savannah River.

Bio-Rad Laboratories, Berkeley, Calif., has established a new service which will provide ultracentrifugal analysis and separation to industrial organizations, research laboratories, and consulting groups. The new service is especially designed to aid petroleum and pharmaceutical research and analytical groups, and educational, government, and high-polymer chemical manufacturing organizations.

Consolidated Vultee Aircraft Corporation has a giant-sized camera that requires film 3½ feet wide and 4 feet high. The camera, which is used to reduce and enlarge wall charts and blueprints, is 29 feet long, 10 feet high, and has a copy board 12 feet wide and 5 feet high.

Du Pont has announced a $2,000,000 expansion program at two of its plants manufacturing "Freon" fluorinated hydrocarbon compounds for the refrigeration and aerosol industries. The major part of the new facilities will be located at the Chambers Works plant of the Organic Chemicals Department at Deepwater point, N. J., and the balance of the program will be carried out at East Chicago, Ind.

Meetings and Elections

The **American Home Economics Association** elected the following officers for 1953–54: president, Elizabeth Sweeney Herbert, *McCall's* magazine, New York, N. Y.; recording secretary, M. Gertrude Holloway, University of Delaware, Newark; treasurer, Evalyn Bergstrand Owens, Dousman, Wis.; executive secretary, Mildred Horton. The vice presidents are Beulah V. Gillaspie, Purdue University, Lafayette, Ind.; Frances Clinton, Oregon State College, Corvallis; and Edna Hill, University of Kansas, Lawrence.

The **American Society for Experimental Pathology** has elected the following officers for 1953–54: president, D. Murray Angevine, University of Wisconsin, Madison; vice president, Russell L. Holman, Louisiana State University, New Orleans; secretary-treasurer, Cyrus C. Erickson, University of Tennessee, Memphis.

The **American Society of Plant Physiologists** has elected the following officers for 1953–54: president, T. C. Broyer, University of California, Berkeley; vice president, A. S. Crafts, University of California, Davis; secretary, Aubrey W. Naylor, Duke University, Durham, N. C.; executive secretary-treasurer, J. Fisher Stanfield, Miami University, Oxford, Ohio.

The **Iowa Academy of Science** has elected the following officers for 1953–54: president, H. Garland Hershey, State Geological Survey, Iowa City; vice president, R. W. Getchell, State Teachers College, Cedar Falls; editor, F. G. Brooks, Cornell College, Mt. Vernon, Iowa; secretary-treasurer, Cornelius Gouwens, Iowa State College, Ames.

The **Nebraska Academy of Sciences** has elected the following officers for 1953–54: president, I. L. Hathaway, University of Nebraska, Lincoln; vice president, Henry M. Cox, University of Nebraska, Lincoln; secretary, C. B. Schultz, University of Nebraska, Lincoln; treasurer, C. E. Rosenquist, University of Nebraska, Lincoln; corresponding secretary, H. L. Weaver, University of Nebraska, Lincoln.

Miscellaneous

The Carnegie Institution of Washington has announced the publication of ***Algal Culture: From Laboratory to Pilot Plant.*** The monograph, to which many distinguished investigators in the field have contributed, summarizes the current work bearing upon the mass culture of algae as a possible means of increasing the world's supply of vegetable protein. Dried algal cells grown under favorable conditions contain over 50 per cent protein, or more than is found in any of the higher plants.

The first of a series of current status reports on Federal support for scientific research and development has been issued by the National Science Foundation. The report, ***Federal Funds for Scientific Research and Development at Nonprofit Institutions, 1950–1951 and 1951–1952,*** provides the most complete and detailed compilation of information that has been made about that part of the Federal research and development budget represented by grants and contracts from Federal agencies to nonprofit institutions.

The report shows that about $338 million out of a total of $2.2 billion of Federal funds expended for research and development during the year ending June 30, 1952, went toward financing research at nonprofit institutions. Seventeen Federal agencies administered these funds, but four agencies—the Department of Defense, the Atomic Energy Commission, the Department of Health, Education, and Welfare, and the Department of Agriculture—accounted for about $330 million (98%) of the funds. These four agencies spent 83% of the research money at only 50 institutions, excluding "research centers." The report points out that less than one-third of the educational institutions with "immediate potential capacity" for carrying out research and development have received government funds.

About one out of every five dollars which went to nonprofit institutions in 1951–1952 was for basic research; the other four went for applied research, development, and large-scale additions to the research and development plants of these institutions.

"The Trapping of Solar Energy: A Symposium," which was presented at the Annual Meeting of the Ohio Academy of Science at Kent State University, Kent, Ohio, on April 18, 1952, will appear in the September, 1953, issue of the *Ohio Journal of Science* (Vol. LIII, No. 5).

Recent **visitors from abroad** at the National Bureau of Standards:

Marcel van Laethem, Consulting Civil Engineer, Louvain, Belgium.

Sister Lignori del Rosario, Dean, College of Liberal Arts, St. Scholastica's College, Manila, Philippines.

Shukichi Nagatomi, Manager, Research Department, Tungaloy Manufacturing Company, Ltd., Kawasaki, Japan.

Jaques Buzon, Research Engineer, French Petroleum Institute, Paris, France.

Wolfhart Weidel, Research worker in biochemistry, Max Plank Institute, Tubingen, Germany.

Sigvard Tamner, in charge of microwave tube development at A.B. Svenska Elektronic, Stockholm, Sweden.

Akihisa Narimatsu, Kowa Optical Works, Nagoya, Japan.

H. J. Fisher, Metallurgist, Department of Mines & Technical Surveys, Ottawa, Ontario, Canada.

M. Sugimoto, Government Technical Officer, Ministry of International Trade and Industry, Tokyo, Japan.

Leo Werner Suffert, Faculdade de Odontologia de Porto Alegre, Porto Aleore, Brazil.

A. F. Chhapgar, Research Officer, National Physical Laboratory of India, New Delhi, India.