troscopy, x-ray analysis and radioactivity. He was also an innovator in the development of optical glasses and thermocontrols. During his years at NBS he formed a close relationship with Fred Mohler, one of his colleagues there. Together they wrote a book on the origins of atomic spectra, which became a classic of its day and inspired many young Americans to pursue a career in atomic physics. He founded *The Review of Scientific Instruments* in 1922, and served as its editor for ten years, elevating that journal to one of the leading instrument journals in the world.

In 1916 he left NBS briefly to serve the Fisher Scientific Co in Pittsburgh, but he returned after a year and remained there until 1927 when he became a senior industrial fellow at the Mellon Institute, under the sponsorship of the Gulf Oil Corp. Five years later he assumed the post of director of research

FOOTE

and executive vice-president of the Gulf Research and Development Co. During the early years at Gulf he was exceedingly active in promoting interdisciplinary organizations that would bring the research-minded leadership of many organizations together. His guiding role in the creation of AIP took place as part of this group of endeavors. Ultimately, in 1945, he was elected a vice-president of the Gulf Oil Corp and the Gulf Refining Co.

Although Foote did not follow an academic career, he was a brilliant lecturer. Henry Barton recalls a summer class in modern physics that Foote taught at Columbia in the mid 1920's, and which was so stimulating that it convinced Barton to return to graduate school and pursue a research career.

On retirement in 1953, Foote returned to Washington as Assistant Secretary of Defense for Research and Development. After leaving this post he became active as an advisor in the Washington area, serving many organizations, such as the Atomic Energy Commission, the National Academy of Sciences (of which he was a member), and, of course, NBS, his first love.

I first came to know Foote well when I joined the staff of the Carnegie Institute of Technology in 1942. He was then at the peak of his career and a greatly admired leader of the scientific community. It was a substantial privilege for me to extend this friendship into his Washington years, and to work with him in several of his capacities there. Few individuals in our time have been as dedicated as he was to the creation of relationships within the community of American physicists that would advance the role physics could play in our society. Our times call for more of the spirit that motivated Foote to explore new roles for the members of the physics profession.

Frederick Seitz
Rockefeller University

Lewi Tonks

Lewi Tonks, who collaborated with Irving Langmuir on plasma physics and later worked on the Princeton Stellarator, died last July at the age of 74.

His PhD from Columbia University included unusually good training in mathematical physics. After receiving this degree in 1923, he joined the General Electric Research Laboratory and during the pre-war period 1926-41 he published 29 papers, 22 of which were principally theoretical. These papers were mainly about electrical discharges in gases, but included five papers on the propagation of large magnetic Barkhausen discontinuities, for which K. J. Sixtus did the experimental work. During World War II he was head of a GE research group working on jamming magnetrons. After the war he joined the physics group at the Knolls Atomic Power Laboratory, working with Harvey Brooks and Henry Hurwitz, and later becoming head of the theoretical physics group for the design of the nuclear reactor for the Sea Wolf. In 1955 he was a consultant for the Stellarator project at Princeton University, and a year later he joined the GE Vallecitos Atomic Laboratory where, in addition to doing work on power reactor physics, he also worked actively with the controlled thermonuclear reactor group at Livermore. In 1961 he returned to GE in Schenectady, where he was involved in theoretical work on lasers and masers until his retirement.

Perhaps his most important work was in plasma physics, the result of a fortunate coupling of his mathematical-physics skills with the great physical

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It is expected that the candidate will teach and conduct research in collaboration with other groups in the Physics Department.

Applications, including curriculum vitae and a list of the most important publications, should be submitted by December 31, 1971, to: **The Dean, Faculty of Natural Sciences, Bernoullistrasse 32, CH-4000 Basel, Switzerland.**

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announces a vacancy for a German speaking

FULL PROFESSOR IN THEORETICAL PHYSICS OF CONDENSED MATTER

Candidates should have demonstrated research competence in theoretical solid state physics. It is expected that the applicant will be interested in the experimental work of the solid state group and participate in the activities of the theoretical institute.

The candidate should teach solid state physics, introductory and advanced courses in theoretical physics. Research with other groups of the Physics Department will be encouraged.

Applications, including curriculum vitae and a list of the most important publications, should be submitted by December 31, 1971, to: **The Dean, Faculty of Natural Sciences, Bernoullistrasse 32, CH-4000 Basel, Switzerland.**

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Applications are invited for the position of Chairman of the Physics Department. The Department offers the B.S., M.S., and Ph.D. degrees and active research programs exist in the areas of atmospheric and space physics, solid state and chemical physics, nuclear physics, theoretical physics, and biophysics. The applicant should have demonstrated research competence and have had appropriate academic experience. Please send résumés and inquiries to: **Dr. Donald C. Larson, Chariman, Search Committee, Department of Physics, Drexel University, Philadelphia, Pennsylvania 19104.**

THE HEBREW UNIVERSITY OF JERUSALEM
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Applications are Invited for Postdoctoral Fellowships in Physics
for the Academic Year 1972/73

The applicant is required to submit his application in letter form together with a detailed curriculum vitae and list of publications, to reach the Dean of the Faculty of Science Office by December 1st, 1971. Simultaneously the candidate should arrange for at least two letters of recommendation to be directed to the same office, from persons well-acquainted with the applicant's academic and research records.

The fellowship provides for a tax-free salary of IL. 10,000 and usually allows for a single air-ticket to Israel as well as for the return trip upon leaving the country.

The fellowship is intended primarily for persons who attained their Ph.D. degree during the years 1969–1971, and those who will complete all requirements for the degree before the autumn of 1972.

ACADEMIC POSITION IN NUCLEAR THEORY

The Flinders. University of South Australia has a vacant academic position in nuclear structure or reaction theory in the range Lecturer ($Aust. 7,441.00) to Reader ($Aust. 12,593.00).

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Superannuation is on the F.S.S.U. basis.

Further information is available from **The Registrar, The Flinders University of South Australia, Bedford Park, S.A. 5042, Australia,** with whom applications should be lodged by Friday, 15th December, 1971.

Bucknell University—Assistant Professorship

Teaching position for February 1972. Prefer experimentalist able to involve undergraduates and master's candiates in research. Send resumé to **Richard W. Henry, Chairman, Department of Physics, Bucknell University, Lewisburg, Pennsylvania 17837.** Bucknell University is an equal-opportunity employer.

GRADUATE STUDY IN MATERIALS SCIENCE, NORTHWESTERN UNIVERSITY. Fellowships, research and teaching assistantships are available for advanced study in in the fields of physical, mechanical, thermodynamic and structural properties of metals, ceramics, polymers, semiconductors, biomaterials and liquid crystals. Applicants with degrees in metallurgy, ceramics, materials science, engineering, or the physical sciences will be considered. **Graduate study** may be started in September, January, March or June. Requests for application materials or information about current research interests of the faculty should be directed to: **Chairman, Department of Materials Science, Northwestern University, Evanston, Illinois 60201.**

Overseas opportunities in a new science and engineering college for faculty in Civil, Electrical, Chemical and Mechanical Engineering. PhD degrees and teaching experience required. Also opportunities at various academic levels for candiates in Chemistry, English (TESL), Geology, Mathematics, and Physics. Challenging assignments in undergraduate and research, growing into graduate level. Minimum appointments of two years. Competitive salaries, free airconditioned furnished housing and unparalled opportunities for travel in Europe, Africa, and the East. Reply with resume including home and office telephone numbers to: **College of Petroleum & Minerals, Saudi Arabian Educational Mission; 880 Third Avenue —17th Floor, New York, N.Y. 10022**

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Miscellaneous

we hear that

insight of Langmuir. Two papers, one on plasma oscillations and the other on a general theory of a plasma, which appeared in 1929, have become part of the foundation of modern plasma physics, as evidenced by 20 references to them in the 1970 Citation Index. Both papers were published under the authorship of Tonks and Langmuir and, to those who knew Langmuir's objective viewpoint on such matters, the order of names indicates his judgment that Tonks had done the major portion of this work.

Tonks had well formulated opinions on many subjects and was prepared to defend them vigorously, as was sometimes evidenced by his sparkling discussions on the GE Science Forum, a spontaneous panel radio discussion broadcast weekly during 1938–56. Throughout his life Tonks had a deep concern for the resolution of sociological problems, and devoted his full effort to this endeavor after his retirement.

K. H. Kingdon
Schenectady, N. Y.

Clifford M. Schroeder

Clifford M. Schroeder, associate professor of physics at Arizona State University, died last November at the age of 44.

Schroeder, who had been at Arizona State since 1957, received his BS degree in physics at Washington State University, and his MS and PhD degrees at Ohio State University. In addition to teaching, he had conducted research in low-temperature physics. In 1955 he received the Frederick Gardner Cottrell Fellowship, and a year later, the National Science Foundation Research Fellowship.

Charles A. Reynolds

Charles A. Reynolds, 48, head of the Low Temperature Laboratory at the University of Connecticut, died on 22 July after a brief illness.

Reynolds received his PhD in physics from Yale University in 1949 and then joined the physics staff at Rutgers University. While there he was a member of the team that discovered the isotope effect in superconductivity. He later joined the staff of the physics department at the University of Connecticut, where he established and developed the low-temperature laboratory. In collaboration with his students he published some 40 papers in the low-temperature field. In recent years his research was concerned with the effects of impurities on electrical and thermal conductivity of metals. □