

Graduate Work in Astrophysics at Caltech

PARALLELING the extensive research program planned for the combined Palomar-Mt. Wilson Observatories will be a program of training in astronomy and astrophysics at the California Institute of Technology. Designed primarily for Ph.D. candidates, this program will be superimposed upon the Institute's present thorough training in mathematics, physics, and chemistry, and will include an undergraduate option.

Combining with the Caltech faculty in this program will be many of the Mt. Wilson staff who will from time to time give seminars in the fields of their special interests. The Institute staff will be increased from time to time as the program is expanded.

A new addition this year to the astrophysics staff is Dr. Jesse L. Greenstein, now assistant professor of astrophysics at the Yerkes Observatory, the University of Chicago's famous astronomical center at Williams Bay, Wisconsin. Dr. Greenstein, who is also a research associate at the McDonald Observatory of the University of Texas, joined the Caltech faculty on July 1 as associate professor of astrophysics. He will conduct classes in astrophysics and have general supervision of the entire Institute training program in astrophysics.

Serving with him will be Dr. Fritz Zwicky, professor of astrophysics and who recently delivered the Halley Lecture at Oxford; Dr. Max Mason, Dr. Walter S. Adams, and Dr. Josef J. Johnson, research associates in astrophysics; Dr. Albert G. Wilson, research fellow in astrophysics; and Dr. Ira S. Bowen, director of both the Mt. Wilson and Palomar Observatories.

Not only are particular courses for both graduate and undergraduate work included in the curriculum, but special seminars such as the following will be offered from time to time during the school year by members of the Mt. Wilson Observatory staff and such Institute staff members as Drs. H. P. Robertson, Richard C. Tolman, Leverett Davis, Jr., and some of the theoretical nuclear physicists.

Applications of Nuclear Physics to Astronomy
The Sun and Planetary System
Sun Spots and the Solar Atmosphere
Zeeman Effect in Solar and Stellar Spectra
Classification of Stellar Spectra
Peculiar Stellar Spectra

Stellar Radial Velocities
Stellar Absolute Magnitudes
Microphotometry of Stellar Spectra
Spectra of Gaseous Nebulae
Structure of the Galaxy
Observational Cosmogony
Theoretical Cosmogony
Cosmic Rays

Jesse L. Greenstein

Dr. Jesse L. Greenstein, newly appointed associate professor of astrophysics who will supervise the Institute's training program in the field, has been engaged in research work at Yerkes Observatory and for the past six years has been on the faculty of the University of Chicago as assistant professor of astrophysics. Since 1946 he has also been in charge of a contract with Applied Physics Laboratory of Silver Springs, Md., for the development of spectrographic solar observation from V-2 and possibly other rockets.

Now 38, married, and father of two children, Dr. Greenstein was graduated from Harvard with an A.B. degree in 1929, an A.M. in 1930, and Ph.D. from the Harvard Observatory in 1937. During this period he had four years' experience in business finance and management and spent part of the time in research at Columbia University. Following this he was a National Research Council Fellow two years and instructor in the University of Chicago, stationed at Yerkes Observatory, from 1939 to 1942. Since that time, Greenstein has held the rank of assistant professor of astrophysics at Yerkes and has been a research associate at the McDonald Observatory of the University of Texas. In recent years he has spent about one-fourth of his time teaching graduate students at Yerkes Observatory and a small amount at the University of Chicago.

During the war, from 1942 to 1945, he was engaged in design and construction of military optical instruments under contract with the National Defense Research Council at Yerkes. Research has been his chief activity, with particular emphasis on the nature of interstellar matter and its intersection with the stars, observations of galactic nebulae and interpretation with reference to the nature of interstellar matter, the theory and practice of optical design, and interpretation of stellar spectra. In a phase of this last field of investigation, Greenstein spent a few weeks in Pasadena in 1945, working in collaboration with Drs. Walter Adams and Paul Merrill of the Mt. Wilson Observatory.

Greenstein is a member of Phi Beta Kappa; Fellow of the A.A.A.S., the Royal Astronomical Society, Astronomical Society of the Pacific, International Astronomical Union, Midwest Group of Astronomers (of which he is permanent secretary), and the American Astronomical Society.

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