

Announcement of arrival of Dr. S. S. Penner

May 1, 1964

One of the nation's leading authorities on jet propulsion has arrived at the San Diego campus of the University of California to begin active planning for a department of engineering that will enroll graduate students-- including part-time students from San Diego industry-- in September, 1964, and undergraduate students in the Fall of 1965.

He is S. S. Penner, Chairman of the new Department of the Aerospace and Mechanical Engineering Sciences in the First College. He comes to UCSD from the California Institute of Technology, Pasadena, where he was Professor of Jet Propulsion from 1957 to 1963.

"Dr. Penner is a great international figure in modern engineering," says Dr. Keith A. Brueckner, UCSD Dean of Letters and Science. "He is active in the key societies and on international committees. He is a person who knows fully the intimate relationship between modern engineering and the basic sciences. He has trained many students who have gone on to important positions in government, industry, and universities."

Dr. Penner has been joined by three other faculty members in engineering., Hugh Bradner, Professor of Aerospace Engineering and Geophysics, who has been on the staff of the University's Institute of Geophysics and Planetary Physics for several years; Forman A. Williams, Associate Professor of Aerospace Engineering, who comes to UCSD from Harvard; and Sinai Rand,, Assistant Professor of Engineering Physics, who comes from the Institute for Defense Analyses. At least four more professors will join the staff by September.

It is expected that the new department will offer graduate work leading to the Master's and Doctor of Philosophy degree in aerospace engineering, applied mechanics, or engineering science, Dr. Penner says.

Its establishment marks the first time UCSD has ventured into the field of engineering. Previously, instruction and research have been limited to the "basic sciences," physics, chemistry, mathematics, biology. The new department brings to 12 the number of departments at UCSD. The others are Biology, Chemistry, Earth Sciences, Economics, Linguistics, Literature, Marine Biology, Mathematics, Oceanography, Philosophy, and Physics.

Dr. Penner expects the department to enroll about 15 full-time graduate students in September. As of April 3, 11 applications for admission had been received; of these, 7 students were admitted, and 4 applications are pending.

In addition, Dr. Penner expects to be able to admit selected part-time graduate students.

"These students will be working for advanced degrees in aerospace engineering or applied mechanics," he says. "The students must meet the regular requirements for admission to graduate studies at UCSD. These part-time students will be allowed to take as few as three to six hours a semester, that is, one or two courses." UCSD already has several part-time graduate students in other departments.

The need for a modern engineering department such as this is widely recognized, says Dr. Penner. "At those universities where a graduate program such as this is lacking there generally exists a wide gap in the types of training available to students in the basic sciences, on the one hand, and in engineering, on the other hand. The importance of thorough interdisciplinary training has led to the introduction of graduate program in fields identified

as aerospace science, applied mechanics, or engineering science at such schools as Princeton, the California Institute of Technology, and Cornell University. Graduates of such departments have proved to be especially versatile in their integration into academic and industrial research activities in the aerospace and chemical process industries.

"The programs in aerospace engineering, applied mechanics, and engineering science tend to be interdisciplinary activities. As an example, students who earn degrees in aerospace engineering and applied mechanics may be especially well trained in applied mathematics and solid state physics, respectively. A close working relationship, on both the faculty and student levels, with the Departments of Physics and Mathematics, is therefore anticipated."

The principal areas of research will be divided into five related fields: 1) propulsion systems, space vehicles, and mission studies; 2) combustion research and chemical changes in flow systems; 3) physical gas dynamics; 4) radiation gas dynamics; and 5) plasma dynamics.

The faculty selected to date include Dr. Bradner; P. A. Libby, Professor of Aerospace Engineering, widely known for his work in fluid mechanics, who comes from the Polytechnic Institute of Brooklyn; S. C. Lin, best known for the pioneering experiments which he has performed in high-temperature gas dynamics and reentry physics, who has spent the past year as a Visiting Professor at the Massachusetts Institute of Technology; D. B. Olfe, Associate Professor of Aerospace Engineering, a specialist in radiation gas dynamics, from New York University; R. W. Patch, Assistant Professor of Aerospace Engineering, who has recently obtained the Ph.D. degree from the California Institute of Technology; Dr. Rand; Dr. Penner; and Dr. Williams.

It is expected that by 1965 a group of four supplementary appointees, covering the broad field of solid mechanics, will join the department. Furthermore, it is anticipated that the department will eventually be expanded to include specialists in the fields of orbital mechanics and engineering cybernetics.

The work of the department is being partially supported by a gift from General Dynamics Corporation.