

Lab Develops Jet Lubrications

By KAY MILLS
 Jet-engine lubricants and hydraulic fluids used in commercial and military operations today have been developed almost exclusively by the University's Petroleum Refining Laboratory, Dr. Merrell R. Fenske, said.

For example, he said, the lab developed the lubricating oil for the Convair 880 commercial jet transport and the U.S. Air Force F-102.

A hydraulic fluid is a substance that makes a closed system work. The system is "closed" because

the fluid is already incorporated within it as opposed to a system into which fuel must be pumped while operating.

Power from an outside source is transmitted through the hydraulic fluid, which operates the jet's auxiliary equipment, such as wing flaps, landing gear and brakes.

The Department of Chemical Engineering, which includes the Petroleum Refining Laboratory, cooperates with private firms, state organizations and the federal government on research projects.

"These are all part of the aim to advance in a materially through chemical engineering research and development," Fenske said.

"When all the frills and feathers are removed," he said, "the purpose of chemical engineering is to bring in the dollars. Engineering in general manipulates natural forces and resources for an economic purpose.

"Those last three words are the key. We have an economic purpose as opposed to scientists who do research for basic knowledge for its own sake."

Projects here involve the two basic processes of chemical engineering, separation and conversion, Fenske said. In the first area, the engineer has a substance but

it needs purifying. "Conversion is used when you haven't got a substance and want to convert something else into it."

Research continues here on automotive, aircraft and industrial lubricants, Fenske said. An Air Force contract covers work on hydraulic fluids and lubricants that are operational from temperature extremes of minus 65 degrees F. to plus 700 degrees F.

Samples of hydraulic fluid from the "Lady Be Good," a B-24 bomber, were analyzed and studied in the lab, Fenske said. These samples were taken from the wreckage of this plane after 16 years in the Sahara Desert.

The lab's report and interview will be used to prepare an Air Force technical paper concerning the reliability of equipment and materials. The hydraulic fluid from this plane was originally developed in the lab here.

The lab, located behind the Ritenour Health Center, has no extensive refining equipment, Fenske said, "because we are not training our students to get jobs in refineries. We are not concerned with the design of the refinery of 1960 but of 1970. Chemical engineering graduates will be trained to join and advance the surge in the chemical industries," he added.

Prabhu to Give Talk On Psychology in India

Pandharundath Prabhu, director of the Gujarat, India University School of Psychology, Philosophy and Education, will speak at 12:30 p.m. Tuesday in Hetzel Union dining room B. His topic will be the current state of psychology in India.

Prabhu's speech is being sponsored by Psi Chi, national honorary society in psychology and the Department of Psychology.

The program will be open to the public.

Hostetter to Give Talk

Dr. C. N. Hostetter, Jr., chairman of the Mennonite Central Committee, will speak on world needs at an open meeting of the Mennonite Student Fellowship at 3 p.m. tomorrow in the Eisenhower Chapel.

Hostetter, a former president of Messiah College, recently made a world tour. He is also a member of President Kennedy's Food for Peace Council.

Prof to Speak on Tito

Vaclav Mares, associate professor of economics and business administration, will speak on "Yugoslavia, Tito's Welfare State" at 7 p.m. tomorrow at the Slavic Center, in the Myra Dock home management house.

VA Assistance Helps Students Pay Expenses

Approximately 90 undergraduates are receiving \$110 a month from the Veteran's Administration for their education here, Cyrus V. Bissey, coordinator of veteran's affairs, said yesterday.

The students receive this financial aid under the war orphan's education program, he said, because either one or both of their parents died of injuries or diseases resulting from their military service in World War I, World War II or the Korean War.

The number of students enrolled under this program has almost doubled since last year, Bissey added that the number will "gradually keep going up as the 'war babies' reach 18 years of age."

The veteran's law provides \$110 a month for 36 months of schooling at an institution and in a curriculum approved by the Veteran's Administration.

Students from Pennsylvania who are attending an educational institution in the state are also eligible for a \$400 a year tuition gratuity from the State Veteran's Administration.

Bissey said that all except one of the students attending the University under this war orphan's educational program are eligible to apply for the gratuity.

Students May Obtain Scholarship Applications

Students wishing to apply for scholarships for the 1962-63 academic year may pick up the necessary forms at the Office of Student Aid, 218 Willard, Ralph N. Krecker, director, said recently.

All applications must be returned by Jan. 12, but not before the end of the present term because the student's All-University average through this term will be required, Krecker said.

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Maintenance of Plant Equipment	1
Office and Storeroom Procedures	1
Special Assignments—Plant	3
	24
Gas Distribution Department	
Construction Operation and Maintenance of Distribution Piping Systems	12
Installation of Meters and Appliance Servicing	10
District Office Operations	4
Division Office Operations	3
Special Assignments—Division	2
	31
Engineering Department	
	2
Commercial Operations Department	
District Commercial Office	2
Commercial Operations Department Course—C.O.	1
Vice President and Comptroller's Department	
	2
Miscellaneous Assignments	
Network Analyzer	1
Utilization Laboratory	1 day
Meter Repair Operations	1
Appliance School	1
Street Department School	1
Gas Dispatching Operations—Meter Substation	1
Instrument Engineer	1
Planning Engineer	2 days
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