



## WATER, WATER EVERYWHERE . . . BUT ONLY FOR SCIENCE

Pictured above is a sequence of pictures made by the hydrodynamics laboratory's water tower camera in a study of vortex formation and resistance in unsteady flow past "buff" bodies. The pictures show water rushing past a blunt cylinder to illustrate the formation of a vortex (left) to when the water pressure becomes so great that the vortex becomes shapeless (right). The entire sequence was taken in less than one-half of a second.

# Cold, Dark Storeroom Becomes Lab

By WENDY ROGERS  
When surroundings are dark and gloomy, you must not complain and do nothing. Simply light a small candle, and when everyone else does, the building will be lighted and people can see what they are doing.

In a quiet, unassuming manner, a native of Turkey, Dr. Turgut Sarpkaya, professor of engineering mechanics, illustrated his philosophy which underlies the development of a modern hydrodynamics laboratory on the University campus.

From a cold, dark storage room in the basement of Bancroft Hall has emerged a modern hydrodynamics laboratory with highly specialized, expensive equipment.

In slightly more than two years, Dr. Sarpkaya has received approximately \$70,000 in grants from the National Science Foundation (NSF) and the U.S. Army Research Office.

**Funds**  
Coupled with \$12,000 from the University, appropriated for construction of the laboratory itself, the funds have resulted in aid for some 11 outstanding students doing graduate work in fluid mechanics as well as the highly equipped laboratory.

Four PhD candidates in fluid mechanics are working at present in the laboratory in addition to candidates for masters degrees.

The laboratory, begun in July, 1960, with the assistance of Merk Hobson, dean of the College of Engineering and Prof. Emerald Marmo, chairman of the dept. of engineering mechanics.

Working day and night — often until 2 a.m., under the \$34,000 NSF grant for investigation of "Vortex Formation and Resistance in Unsteady Flow Past Buff Bodies," Dr. Sarpkaya and two assistants built much of the equipment in the laboratory themselves.

**Water Tunnel**  
A vertical water tunnel, for which the materials cost \$2,500, was part of the equipment constructed.

The laboratory now contains approximately \$6,000 in electrical equipment, and as progressive stages of the 3 year NSF grant and 3 year Army grant are reached, some \$5-\$6,000 more will be spent for equipment.

An example of money

saved by Sarpkaya and his graduate degree candidates is a mechanism for study of wave motion in harbors.

List price for the equipment is \$1,500. Sarpkaya and his assistants built the mechanism using only \$120 in construction materials, plus uncountable hours of labor.

**No Floor**  
The original storeroom had no usable floor, windows, light, heat, electricity, water or piping system.

As workmen sandblasted the walls to complete the lab, Sarpkaya and his assistants worked steadily with a handkerchief over their face.

The \$36,000 Army grant, which will allow expansion of work in the laboratory, was awarded to Sarpkaya recently for investigation of the mechanism of turbulence generation in pulsating viscous flows.

Equipment obtained through grant money will remain property of the University even after the 3 year projects are completed.

**Grad Education**  
"In this way, these groups contribute to graduate education in the universities," noted Sarpkaya.

An unusual fact in construction of the laboratory is that, per cubic foot, construction cost approximately one-fifth that of other laboratories and space in buildings on the NU campus.

When Dr. Sarpkaya arrived at the University in 1957, no advanced courses were offered in fluid mechanics. He began offering these advanced courses, and more students began enrolling in them and working for their master's degrees.

With construction of the laboratory and its facilities, came the first PhD candidate in fluid mechanics.

**Major Purpose**  
"The major purpose of a grant," said Sarpkaya, "is to enable students to work on their degrees who otherwise

could not, and at the same time, give them training for scientific research."

It is a give and take proposition, he explained — one has to be trained for research, and those who receive such benefits contribute accordingly.

Dr. Sarpkaya receives no personal monetary benefits from the grants outside of that equal to a summer teaching salary, when he devotes his full time to the research project.

"The compensation is not in money," he explained. "The compensation is intangible — you have a feeling of pride and satisfaction in having someone work with you who will be contributing much in some other place, at some other time," he said.

## Social Casework Confab at Center

The 17th annual Institute in Social Casework, sponsored by the University of Nebraska Graduate School of Social Work, will be held at 9 a.m. today and tomorrow at the Nebraska Center for Continuing Education.

The institute has been planned to meet the need of practicing social workers, who have completed at least one year of graduate education in social work, to continue their education.

The topic this year is "Social Services in Behalf of Children Living in Their Own Homes." It will help parents find ways to improve child care by providing experiences in family and community living required for healthy growth and development.

NEBRASKA INTERNATIONAL ASSOCIATION will meet at 8 p.m. Sunday in 232 Student Union. Slides will be shown depicting technical improvements in Iraq and the group will elect a new secretary at this time.

## Ten University Students Try for Model UN Trip

Interviews for delegates to the Midwest Model United Nations will begin at 9 a.m. tomorrow in 348 Student Union.

Five University students will be selected from these interviews to comprise a delegation from the University:

9:00 Mary Ann Behlen

9:15 Vicki Cullen

9:30 Marilyn Hastings

9:45 Carlton Davis  
10:00 Betty Jones  
10:15 Joel Lederman  
10:30 Joel Lundak  
10:45 James Moore  
11:00 Ted Munster  
11:15 H. P. Tipnis

If there are any time conflicts or any questions, please contact Al Plummer at HE 5-2957 or HE 5-2958 today.

## Neff, NSA Vice President, To Talk to Student Body

A mass meeting open to the student body concerning the National Student Association (NSA) will be held today at 4 p.m. in Student Union ballroom.

Mike Neff, NSA vice president, will speak on the service of the organization to individual campuses and student governments as well as explain its national functions.

A coffee hour will proceed the meeting from 1-3 p.m. in 341 Union.

## NSA Applications

Applications for a National Student Association (NSA) study group are available and may be turned in to Student Council President Steve Gage in the Council office starting next week.

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## Formals, Parties Swing Weekend Out Into Orbit

Snow, sleet, no, not even Colonel John Glenn's triumphant three orbits around the world could slow down social events this weekend on campus.

**Friday**  
Chi Omega Open House, after Coed Follies.

**Saturday**  
Acacia Date dinner, 5:30-6:30. House party, 9:00-12:00.

Sigma Nu Piggy Dinner formal, 8:00-12:00.

Sigma Phi Epsilon House party, 9:00-12:00.

Ag. Men Formal, 6:30-12:00.

Selleck Quad. Basketball function with Bryan student nurses and Canfield House, 7:00-10:00.

All Quad Cellar Party (open to the campus), 9:00-12:00.

Daily 9:30 to 5:30, Thursday 10 a.m. to 9 p.m.



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## On campus interviews:

All qualified applicants will receive consideration for employment without regard to race, creed or national origin. U.S. citizenship or current security clearance required.

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March 1 — Contact University Placement Office for Appointment