

Prof says stats aid in hospital

By RUSTY McDONALD
Battalion Reporter

Intensive care units of hospitals are using "early warning" systems that have, in part, been developed by a Texas A&M University professor of statistics.

Dr. Emanuel Parzen, one of 15 distinguished professors on campus, came to Texas A&M about a year ago. In addition to medical uses, he said, statistics are important in people's everyday lives — by giving them information on which they can rationally make decisions. The application of statistics in medicine aids in life-or-death decisions.

Parzen said, "We can measure patterns and relationships of bodily functions and give doctors patterns to look for."

These patterns are developed through research known as "time series analysis," which Parzen has studied for the last 25 years.

Time series analyses are careful observations that reliable predictions.

Parzen said the time series analysis interests researchers in physical science, engineering, biology, medicine, social sciences, economics and management.

In medicine, Parzen said, the time series analysis is clinically useful.

"The patterns we give the doctors to look for are based on what a healthy body produces," Parzen said. "The body is constantly moving. This motion is in cycles and it is these cycles we make the patterns from."

Parzen said the constant motion of the body enables it to react and adapt to stress or change.

"A healthy body produces regular patterns. When the body is sick or failing the healthy pattern breaks up until there is no longer a pattern to



Dr. Emanuel Parzen, a distinguished professor of statistics, explains that statistics are useful in making rational decisions — whether in everyday life or in a hospital's intensive care unit.

Battalion photo by Kayee Glasse

follow," Parzen said.

The basis of predicting these patterns is statistical data, Parzen said, so statistics are important.

"Statistics are something an educated person should know about," Parzen said. "It's an integral part of professional sciences."

"All of life is on a cost/benefit analysis," said Parzen, who has a

doctorate in mathematics from the University of California at Berkeley. He said people are faced with decisions and statistics provide the information to make those decisions.

"Statistics show how to assess risks and then decide on a course of action."

"It's all based on theory and data," Parzen said. "The data either backs up the theory or disproves it."

But Parzen said there are three problems with data.

The data can be collected poorly, thus giving bad results. Or it can be non-existent. Parzen explained that the data needed by a researcher may not have been collected in the past, so he has nothing to compare his recent data with.

The third problem with data — and the most important, according to Parzen — is that people may not even look at the data. He said that data may disprove a theory, but if nobody looks at the data, the theory may be taken as fact.

Parzen joined Texas A&M a year ago when he left the State University of New York at Buffalo. He is one of 15 distinguished professors on campus — each must be so recognized by the Board of Regents — and the only one in the statistics field. At SUNY, he was a professor of statistical science and director of the university's statistical science division.

At Texas A&M, Parzen is teaching graduate students and has proposed a course in which he will teach the basic methods of time series analysis.

Parzen has written more than 50 papers and books on time series analysis and other related fields in statistics.

Air traffic computer to help controllers unclog skyways

United Press International

JACKSONVILLE, Fla. — A \$3.2 million computerized air traffic cop will help unjam the skies to keep airlines and travelers on schedule when ice and snow sock-in northern airports next winter.

Even more important economically, thousands of barrels of jet fuel won't be burned needlessly by airliners forced to maintain holding patterns over congested or partially closed airports.

The computer system to help controllers monitor and direct the flow of air traffic between major U.S. airports is being developed in Jacksonville for the Federal Aviation Administration by Computer Sciences Corp.

At present, the FAA does not have an automated way of knowing when an airplane took off, for in-

stance," said David J. Stewart, the project director.

In some cases, he said, one air traffic control center has to telephone another to verify a plane actually took off and is airborne.

Operating from official airline schedules augmented by real-time information from en route control centers, the new system will allow the FAA's Central Flow Control Facility in Washington to monitor the actual movement of aircraft under the influence of wind, weather and other conditions.

Armed with this information, FAA controllers will be able to foresee potential traffic jams and landing delays, and take action to reduce congestion, such as holding departures of some flights.

In case of a snowstorm at Chicago's O'Hare International Air-

port, which handles an average of 60 aircraft an hour, Stewart said, "We can find out how many planes are in the air and on their way to that airport."

"We also can run a simulation to find out what the capacity of the airport is, so we don't get a stack of planes in Chicago."

The system being developed by 65 computer programmers and analysts will perform 26 defined operations. Stewart said, including — four basic ones — listing traffic, accounting for traffic, simulations and updating information.

"This system doesn't require additional equipment, just some additional data communications lines," Stewart said.

The new system is scheduled for completion in October and the target date for putting it in operation is December. CSC will remain under contract during the first year of the system's operation.

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Poison course closes

EAST LANSING, Mich. — Next semester, Michigan State University veterinary students wanting to see animals fatally poisoned will have to settle for instant replays.

Controversy over the killing of animals for toxicology students has put an end to a laboratory course that featured the poisonings.

"We feel very sorry there was so much emotion attached to this issue," said course coordinator Dr. Frank Welsch, who opposed the decision. "We're not making the animals suffer because we enjoy it, but because it has been an important teaching (tool.)"

Attention was drawn to the program last summer after magazine accounts of the practice. An administration-faculty committee recommended an end to the classroom poisonings after this semester.

The goal of the poisonings was to help students quickly identify the nature of the poison affecting the animal. Instead, videotapes will be used for such instruction.

Dr. Jack Judy, an associate dean of veterinary medicine, said that method is not as effective as live presentations.

"You have to be there to see and feel the symptoms," Judy said.

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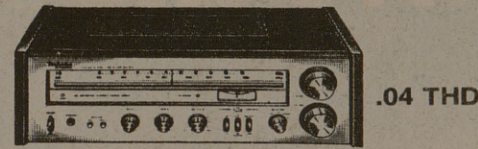


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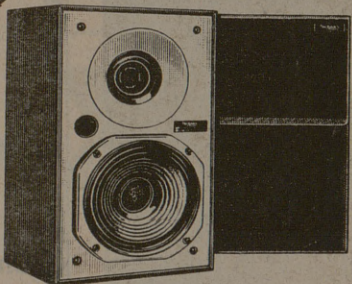


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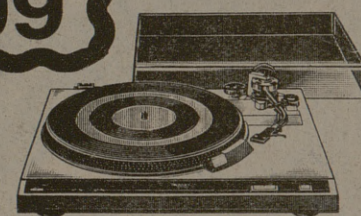


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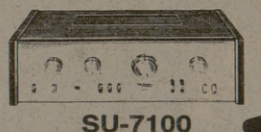
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