

Structural testing laboratory to open at UCSD

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The University of California, San Diego will become the nation's center for full scale testing of structural systems under seismic and other critical loadings with the opening of the \$2 million Charles Lee Powell Structural Systems Laboratory scheduled for next January.

When it is completed the UCSD facility will be the only one of its kind in the country.

With the help of an \$835,000 grant from the National Science Foundation the laboratory will include a 50-foot high reaction strong wall which will allow for testing of structures up to five stories high.

"The kind of large scale testing we will be able to do here just can't be done in this country right now," said Dr. Gil Hegemier, professor of applied mechanics and engineering sciences and co-principal investigator. "To find a similar facility, one has to go all the way to Tsukuba City in Japan."

The reaction strong wall will resemble a large post-tensioned box girder bridge stood on end. With the box as a brace, it will be possible to subject structures to horizontal loads up to 2,000 tons. The loading and data gathering will be automated and computer controlled.

Large scale testing of structures is necessary in order to determine actual structural behavior under extreme conditions such as a major earthquake, according to Dr. Frieder Seible, assistant professor of structural engineering and co-principal investigator of the project.

"This type of information is extremely difficult to obtain from scaled down model tests," Seible said.

Tests to be conducted upon completion of the laboratory range from simulated earthquake loadings of full scale reinforced concrete masonry wall panels, wall floor connections and five story test structures, to the traffic, overload and failure behavior of bridge components.

The Charles Lee Powell Foundation of San Diego contributed \$1 million toward construction of the lab, and the University of California added another \$165,000.

Powell was a Los Angeles engineer who died in 1959 at the age of 96. He left the bulk of his large estate to create the foundation for the furtherance of education in the engineering and scientific fields.

(October 17, 1985) For more information contact: Paul Lowenberg, 452-3120