

# SOUTHWESTERN NEWS

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## UT SOUTHWESTERN HONORS YOUNG RESEARCHER FOR WORK WITH NERVE CONNECTIONS

DALLAS — July 13, 1995 — To Dr. Lawrence S. Honig, communication is the key. His research at UT Southwestern Medical Center at Dallas is aimed at unlocking mysteries about how nerve cells "talk" to each other, which could lead to better treatments for Alzheimer's disease, epilepsy and other neurological disorders.

Honig was singled out recently for the Distinguished Young Researcher Award presented annually by the President's Research Council of UT Southwestern. His work focuses on the nerve-to-nerve connections called synapses and the pivotal role they play in neurological disorders.

The President's Research Council is an organization of community leaders who are interested in advancing medical research. The \$60,000 award was presented to Honig at a June banquet by Dr. William Neaves, dean of Southwestern Medical School.

Honig is an assistant professor of neurology and an investigator in the National Institutes of Health-funded Alzheimer's disease center at UT Southwestern.

"I'm very honored to be selected for this award," Honig said. "This should allow much more rapid progress in what could be a challenging period as a new faculty member starting up new projects."

Dr. Kern Wildenthal, president of UT Southwestern, said Honig's research "presents us with the opportunity to make great progress in our attempts to better understand and treat neurological illness. This award should aid his efforts at learning more about devastating diseases such as Alzheimer's."

Honig's research delves into synaptic maintenance and the role of a protein called agrin in Alzheimer's disease. Individuals with Alzheimer's experience difficulties with thinking, and their memories are often profoundly affected. Prior studies have indicated that loss of synapses is very prominent in the brains of Alzheimer's patients.

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Agrin has been identified as necessary to the formation and maintenance of the specialized synapse between motor neurons and muscle cells, a synapse similar in many ways to that between neurons in the brain. Because of these similarities and because active forms of agrin protein are present in the brain, it is possible that agrin may also be involved in the formation and maintenance of neuron-to-neuron synapses in the brain. It also may be implicated in the synaptic loss associated with Alzheimer's disease.

Honig is evaluating this hypothesis. He will examine the expression of agrin messenger RNA and protein during embryonic development, when synapse formation occurs naturally, and will study agrin expression in the brains of Alzheimer's disease patients who have synaptic loss.

Honig's studies may shed light on the role that changes in agrin expression play in neurological disease, especially degenerative dementias. His research also may provide new avenues of treatment that would help Alzheimer's patients by improving maintenance of synapses.

By learning more about the formation of synaptic connections between nerve cells, this work also could contribute to the development of new treatment techniques for patients affected by neurological disorders brought on by other causes, such as stroke and traumatic brain injury. The research also might help in understanding and treating the synaptic changes in the brains of epilepsy patients.

Honig earned an undergraduate degree from Cornell University and a doctorate from the University of California, Berkeley. He received his medical degree at the University of Miami School of Medicine. Honig completed a residency in neurology and fellowships in neuroscience at Stanford University Medical Center. He said it was the excellent academic medical center and talented faculty that attracted him to UT Southwestern late last year. He formerly was at Stanford.

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