

SOUTHWESTERN NEWS

Media Contact: Megha Satyanarayana
(214) 648-3404

Email: megha.saty@utsouthwestern.edu

UT Southwestern Graduate Wins Nobel Prize in Medicine

DALLAS – Oct. 4, 2004 – Dr. Linda Buck, a graduate of The University of Texas Southwestern Medical Center at Dallas, has been awarded the 2004 Nobel Prize in physiology or medicine. She is the first alumnus of the Southwestern Graduate School of Biomedical Sciences to win the prize, an historic honor for the medical center.

As a graduate student in microbiology at UT Southwestern, Dr. Buck worked under Dr. Ellen Vitetta, now director of the Cancer Immunobiology Center. With Dr. Vitetta, Dr. Buck characterized a class of cells that aids in the body's response to infection. She graduated with her doctorate with an emphasis in immunology in 1980 and in 1995 received the Distinguished Alumnus award from UT Southwestern's graduate school.

"She had no idea she was getting the award," said Dr. Vitetta, who holds the Scheryle Simmons Patigian Distinguished Chair in Cancer Immunobiology at UT Southwestern. "She was my second student to mentor, a highly creative and unusual individual. Her fascination with the diversity of the olfactory system stems from her interest in the diversity of the immune system. Her achievement in understanding of olfaction is a result of hard work, good luck and a good nose."

Dr. Buck, a professor at the Fred Hutchinson Cancer Research Center in Seattle, shares the Nobel Prize with Dr. Richard Axel of Columbia University College of Physicians and Surgeons for their work in understanding the sense of smell. Drs. Buck and Axel discovered a gene family of more than 1,000 different genes that encode a comparable number of olfactory receptors. These odor receptors are located in the nose and allow the brain to process smells and relate them to feelings such as happiness or sadness.

Smells are made up of small airborne chemicals. When they come in contact with the nose, they attach to receptors there. This attachment triggers a series of signals that travel through a specific nervous system pathway to the brain. The part of the brain that senses smell identifies the signal and associates it with a positive or negative experience. The perception of smells are then associated with behaviors. Pheromones, for example, are a specific set of odors that are involved in mating.

Dr. Buck also has developed novel techniques for visualizing the pathway that a smell takes

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from the nose to the brain.

“We are wonderfully proud that Dr. Buck received her Ph.D. from UT Southwestern,” said Dr. Alfred Gilman, interim dean of Southwestern Medical School and chairman of pharmacology, who won the Nobel Prize in physiology or medicine in 1994. “The UT Southwestern Graduate School of Biomedical Sciences is home to roughly 400 superb young scientists-in-training. Linda Buck will not be the last of our graduates to receive such a wonderful honor.” Dr. Gilman directs the Cecil H. and Ida Green Comprehensive Center for Molecular, Computational and Systems Biology and holds the Raymond Willie and Ellen Willie Distinguished Chair in Molecular Neuropharmacology, in Honor of Harold B. Crasileck, Ph.D., and the Atticus James Gill, M.D., Chair in Medical Science.

Dr. Gilman is one of four Nobel laureates at UT Southwestern, which has more active Nobel laureates than any other medical school in the world.

“This is a very well-deserved award for an outstanding scientist, and it is a great honor for the institution and the graduate school,” said Dr. Melanie Cobb, dean of the graduate school and holder of the Rolf Haberecht and Ute Schwarz Haberecht Deanship of the UT Southwestern Graduate School of Biomedical Sciences, in Honor of Olga & Max Haberecht and Anna & Hans Schwarz, and the Jane and Bill Browning Jr. Chair in Medical Science.

Dr. Kern Wildenthal, UT Southwestern president, who was dean of the graduate school when she attended UT Southwestern, said, “We congratulate Dr. Buck on her wonderful achievement. With generous support for our graduate programs we have been able to attract some of the finest students with the greatest potential to UT Southwestern.”

Dr. Buck earned her undergraduate degree at the University of Washington before completing her Ph.D. at UT Southwestern. She did a postdoctoral fellowship at Columbia University working under Dr. Axel. She was a professor of neurobiology at Harvard Medical School before joining the Fred Hutchinson Cancer Research Center. She is a member of the National Academy of Sciences and is a Howard Hughes Medical Institute investigator.

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