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faculty interview: neuroscience

A Quest to Find a Cure for Alzheimer's Disease: An Interview with J. David Sweatt, PhD

Atbin Doroodchi

The day I went to interview Dr. Sweatt, my adrenaline content reached the maximum level. First, I couldn't believe I was given such an opportunity to interview a world renowned neuroscientist. It was like a dream come true for me. As I was walking down University Blvd, I looked at my watch and realized that I would be late, if I maintained the same pace. I started running like a hunted fugitive. As I arrived at Dr. Sweatt's office, I began worrying that I was underdressed with my casual, mildly rushed appearance. However, Dr. Sweatt's energetic greeting made me feel calm.

Dr. Sweatt is an internationally renowned neuroscientist at UAB. He joined the university three years ago as the chairs of the Department of Neurobiology and the Evelyn McKnight Brain Institute. Sweatt was recently featured in a program on PBS regarding his cutting-edge research on Alzheimer's disease. Outside of the laboratory, he is also an artist. However, Sweatt's research still shines through, as he enjoys drawing abstract paintings of neurons. A number of his paintings are currently on display in the Evelyn McKnight Brain Institute.

Dr. Sweatt, an Alabama native, began his illustrious career as an undergraduate Chemistry major and medical school-bound student at the University of South Alabama. To gain an edge over the competition for medical school, he started conducting research in Dr. Gene Palmer's drug synthesis and discovery laboratory at the University of South Alabama. Getting into a lab as an undergraduate was a struggle for Dr. Sweatt. Though he frequently heard "we don't have any positions available for undergraduates," he remained persistent. After continually approaching Dr. Palmer, he finally found a position and gained exposure to an entirely new career path.

While working in the lab, Sweatt realized that he was more interested in being a scientist rather than a doctor. It did not take long for him to reorient his focus and discontinue the pre-medicine track. To Dr. Sweatt, "being a scientist was much



One of Dr. Sweatt's paintings



cooler than being a doctor. I'd rather be in a lab with passionate scientists and discover interesting scientific information." After obtaining his B.S., he pursued graduate studies at Vanderbilt University and received his Ph.D. in Pharmacology. Sweatt's thesis was focused on "the mechanisms of chemical signaling." Basically, he was a "biochemist who was interested in pharmacology".

During our conversation, Dr. Sweatt mentioned an interesting fact about scientific research: the field makes the most boring topic in the textbook far more interesting. "Back in graduate school, lipids were the most boring materials to me, because

lege of Medicine, where he was subsequently appointed Director of the Neuroscience Program. After 17 years at Baylor, he returned to his home state and joined UAB as the Chairs of the Department of Neurobiology and Evelyn McKnight Brain Institute. While native to Alabama, Sweatt contends that the reason for moving to UAB was the strong and growing focus on neuroscience.

Currently Dr. Sweatt works on understanding the molecular and cellular basis of memory formation and learning. Another goal of his lab, albeit an audacious one, is to find a cure for Alzheimer's disease. Finding a cure for this mysterious memory

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my only exposure to them was through textbooks. However, when I did my Ph.D. thesis actually working on them in the laboratory, my opinion changed about them, and they became fascinating to me."

Looking beyond graduate school, Dr. Sweatt realized that his post-doc would ultimately determine his job. Therefore, he reasoned that his post-doc must be on "the most interesting subject in the world." Dr. Sweatt sat down and started asking himself, "What is the most interesting subject in the world?" To him and many others, understanding the mechanism of learning and memory clearly stood above the rest.

For his post-doc, Dr. Sweatt moved from the Deep South to Columbia University. He started working under the direction of Eric Kandel, M.D., who later went on to win the Noble Prize in Physiology or Medicine. Dr. Sweatt's lab work at Columbia was his first real exposure to neuroscience. Though an expert today, he admits that before Kandel's lab, he "never took a course on neuroscience before." However, Sweatt's dedication and intelligence propelled him to a top position as one of the most successful neuroscientists at Columbia University.

Following his post-doc, he received a job offer from Baylor Col-

lege is Dr. Sweatt's personal Holy Grail. He lost his mother to Alzheimer's disease, but is using the unfortunate event to fuel a personal quest to discover the elusive cure. He told me that "many scientists choose their research interests at least partly based on their personal experience, for example if they lost a loved one to a particular disorder."

Keeping his struggles to find a research lab as an undergraduate in mind, Dr. Sweatt has made a strong effort to change attitudes at UAB. As a result, he and the Department of Psychology established the Neuroscience Program at UAB. "The Neuroscience Program at UAB is one of the best of its kind in the nation, in which students receive the same quality education as they would receive at Harvard, Stanford and other elite colleges." In the Neuroscience Program, students will conduct research during their last two years of their undergraduate career, making them standout candidates for professional and graduate schools.

His advice to undergraduates who want to pursue research is to choose a topic that is interesting, whether it be probing the mechanisms of immune system or understanding the mechanisms of memory. Above all, "aggressively" pursue your interests and research.