Dr. Downer did his graduate work with Nicholas Bloembergen at Harvard, who was awarded the Nobel Prize for his pioneering work with nonlinear optics. Dr. Downer was one of the first scientists to bring femtosecond lasers to UT when he joined the faculty in 1985 following his postdoctoral work at Bell Laboratories. He reports there is now a large ultrafast community in chemistry, physics and engineering at the university.

"Welch has consistently supported my work since I qualified for my first grant a few years after coming to UT," Dr. Downer says. "That is one of the virtues of Welch funding. As long as we remain productive, keep generating new ideas, developing new techniques and successfully training our students, the Foundation’s support gives us considerable flexibility to follow our noses and go where the research leads us."

After 25 years in Texas, Dr. Downer confides that he is finally comfortable admitting he’s a New York Yankee. "I got here as fast as I could," he chuckles. He says growing up in Rochester, a center for optics, planted the first seed of his ultimate research direction. Today, he continues to develop and combine linear and nonlinear optical techniques in new ways, creating tools that allow him to explore novel properties at the interface frontier.

David J. Mangelsdorf
Principal Investigator
The University of Texas
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David Mangelsdorf calls himself a ligand hunter. Starting with his graduate work on vitamins A and D, he has been exploring orphan nuclear receptors that bind to DNA and the ligands that activate transcription factors to turn genes on. To date, he has discovered three new receptors.

The first receptor, called LXR, helps maintain