

**Daniel Romo, Ph.D.**, is a second-generation Mexican-American who has been blessed, along with his wife Laura, to parent 5 unique, beautiful boys: Matthew (30), Zachary (27, an Aggie), Nathan (24, a Baylor Bear), Jedidiah (21), and an 'adopted' son, Bryan (25). Romo is the Schotts Professor of Chemistry at Baylor University and co-Director of the Baylor Synthesis and Drug-Lead Discovery Laboratory. Romo received his B.A. degree in chemistry/biology from Texas A&M in 1986 with a senior thesis that involved synthesis of sirenin, a water mold sex pheromone, derivatives and bioassays for SAR. This was a first-hand introduction to the exciting chemistry/biology interface; a field of interest to this day. He received a Ph.D. in Chemistry from Colorado State in 1991 as a NSF Graduate Fellow with the late Prof. A. I. Meyers studying diastereoselective cyclopropanations of bicyclic lactams. As an American Cancer Society Postdoctoral Fellow in the labs of Prof. Stuart L. Schreiber at Harvard from 1991-1993, he led the team that completed a total synthesis of the clinically used immunosuppressive agent, rapamycin. In 1993, he returned to Texas A&M as an Asst. Professor and was promoted to Assoc. Professor in 1999, Professor in 2003, and then given the Gradipore Chair in 2014. In Fall 2010, he established the Natural Products LINCHPIN Laboratory and in Summer 2011, he initiated the TAMU Undergraduate MiniPharma Research Program. In June 2015, he joined the faculty at Baylor University where he established, with Prof. John Wood, the Baylor Synthesis and Drug-Lead Discovery Laboratory and in 2016 he started the Baylor Undergraduate MiniPharma (<http://sites.baylor.edu/minipharma/>). His research group's primary research interests include:



- Pharmacophore-Directed Retrosynthesis Applied to Bioactive Natural Products
- Asymmetric Synthesis, Novel Transformations, and Activity-Based Profiling of  $\beta$ -Lactones
- Novel Organocascade Processes Involving Unsaturated Acylammonium Salts
- Methods for Conversion of  $\text{CO}_2$  to  $\beta$ -Lactones Involving Photocatalysis and Flow Chemistry

The chemistry and biology of bioactive natural products is at the heart of Romo's research interests and this interest drives all of his group's research projects described in ~165 manuscripts to date. The field of natural products is an exciting and enduring interdisciplinary area for discoveries in basic cell biology and human health. Natural products are unique and often structurally complex molecules that have evolved to interact in highly specific ways with various cellular receptors and, due to protein homology, those found in humans. Natural products are selected for chemical synthesis based on compelling and potent biological activity in addition to challenging synthetic hurdles that must be overcome to develop a pharmacophore-directed retrosynthesis strategy toward a chosen target. This is a recently adopted strategy for total synthesis in our group that seeks to pursue structure-activity relationship (SAR) studies of a natural product very early and throughout the course of a total synthesis effort leading to the potential identification of simpler derivatives with similar or novel bioactivities. These natural product derivatives can in turn serve as useful drug leads and/or invaluable probes for inquiries into cell biology via a forward chemical genetics approach. The latter studies are performed in collaboration with numerous established local, national, and international interdisciplinary collaborations with molecular and cell biologists. Previously, the Romo Group developed several 2 step chemo- and site-selective synthetic strategies for conversion of natural products to cellular probes. These methods are being used in numerous collaborations in the Baylor Synthesis & Drug Lead Discovery Laboratory (DL<sup>2</sup>) to perform SAR studies of natural products on microscale to inform the synthesis of cellular probes for mechanism of action studies including cellular target identification. In addition, several projects initiated and brought to a point of possible translation in the Romo Group are being pursued in the Baylor Synthesis DL<sup>2</sup> Lab.

Romo's recent awards include a Baylor Outstanding Faculty Research Award (2021) and selection as a Research Exemplar: P.I. Program (2017). In 2009, he received a 10-year National Institutes of Health (NIH) Method to Extend Research-In-Time Award (MERIT Award) and in 2019 received a 5-year MIRA Award. He is a regular NSF reviewer and served 4 years on the NIH Med Chem A/Syn & Biol Chem Study Sections. He previously served on the Board of Scientific Counselors for NCI at NIH and was Commissioning Editor for *Natural Product Reports*.

Romo has 10 issued patents focused on novel composition of matter and methods of use of natural products for therapeutics and diagnostics. In 2008, Romo received an Excellence in Innovation Award by the Office of Tech. Commercialization at TAMU for his interest in advancing basic findings to potential human therapies primarily for cancer and these interests continue at Baylor.