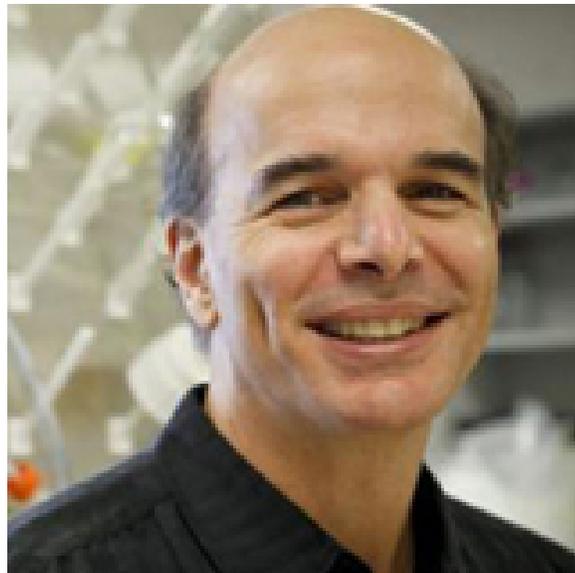


PAUL DEANGELIS, OU HEALTH SCIENCES CENTER

Paul DeAngelis, Ph.D., knows that sugar science and serial entrepreneurship are not mutually exclusive. His four companies, based on his research in glycobiology as a professor of biochemistry and molecular biology at the University of Oklahoma Health Sciences Center, are up-and-running examples of how discipline and an entrepreneurial spirit makes for favorable outcomes.

His studies led him to identify several bacterial and viral polysaccharide synthases (enzymes or protein machines that polymerize small sugar into long chains) resulting in the biopharmaceutical companies Hyalose, Heparinex, Choncept and Caisson Biotech.

DeAngelis has won seven Applied Research awards from OCAST exceeding \$2 million in funding. Those investments generated innovative products destined to help untold millions around the world.



[Hyalose](#)

DeAngelis with colleague Dr. Paul Weigel developed a new form of the raw material employed as an injectable gel for reducing knee pain and the pair developed a surgical aid for cataract surgery that is now sold around the world.

[Caisson Biotech](#)

A natural sugar polymer enhances performance of other drugs. Caisson entered into a \$167 million licensing deal with Novo Nordisk with potential long-term residual royalties. Novo Nordisk will use the Caisson drug delivery technology in the development of drugs for diseases including diabetes.

[Heparinex](#)

Dermal fillers are big business in the beauty industry and DeAngelis discovered and patented core technology platforms using proprietary carbohydrate production to be used both in the dermal filler market as well as the anticoagulation market.

[Choncept](#)

Have you heard of mad cow disease or endangered sharks? You may hear less about it thanks to the scientific innovation of new technology to produce chondroitin from fermentation of bacteria. Current chondroitin production comes from beef and shark animal by-products. By utilizing bacteria, Choncept's technology avoids the problems of potential prion contamination such as "mad cow" disease. The discoveries also reduce pressure on sharks, the top predators needed in healthy oceanic ecosystems.

Harnessing nature through glycobiology to create next generation medicines is a big part of DeAngelis's approach. He is developing a new sugar polymer to deliver medicines. The result should be fewer injections and side effects.

[Learn more about Dr. DeAngelis' work](#)