

About the Founder

Patrick Mills, Ph.D.

Science has always fascinated me—not simply for discovering how the natural world works, but for using that knowledge to solve real-world problems.

I founded **AminoTec Research & Development** to bridge the gap between fundamental chemistry and practical aquaculture. My goal is straightforward: to develop scientifically engineered feeding stimulants that improve feed acceptance, feed efficiency, animal robustness and production performance through a deeper understanding of fish chemosensory biology.

I am a Professor of Chemistry at Joliet Junior College in Illinois, USA, where I have spent many years teaching chemistry and supervising undergraduate research. My academic career began with doctoral research in analytical chemistry. That work developed a rigorous approach to understanding molecular structure, intermolecular interactions and reaction mechanisms—skills that continue to underpin my research today.

Over the past two decades, my scientific interests have increasingly focused on one question:

How do fish detect food before they eat it?

This question led me into the chemistry and biology of amino acids, fish chemoreception and feeding behavior. Through extensive literature review, experimental investigation and formulation development, I have built a detailed understanding of how individual amino acids activate the olfactory and gustatory systems of numerous fish species. Rather than treating amino acids simply as nutritional ingredients, I study them as chemical signals capable of stimulating feeding behavior through highly specific sensory pathways.

This work has resulted in the development of proprietary amino acid feeding stimulants designed using a mechanistic, evidence-based approach rather than traditional trial-and-error formulation. By understanding the chemistry behind attraction and feeding stimulation, it becomes possible to design products with predictable biological activity.

Before entering the aquaculture sector, these concepts were validated commercially within the recreational fishing industry through BioSource Baits, a company I co-founded to translate this science into innovative angling products. Those products demonstrated that carefully engineered amino acid systems could produce significant improvements in fish attraction under real fishing conditions, providing important proof of concept for the underlying scientific principles.

Today, AminoTec is applying those same principles to commercial aquaculture.

Our research focuses on developing next-generation chemosensory feeding stimulants for species including salmon, catfish, shrimp and carp. By improving feed detection and feed acceptance during critical production stages, our objective is to help producers increase feed utilization, support fish welfare, improve robustness and ultimately enhance production efficiency. Because feed represents the largest operating cost in most aquaculture systems, even modest improvements in feeding performance can have substantial economic impact.

Everything we develop is built upon scientific evidence, quantitative chemistry and a commitment to understanding the biological mechanisms that drive feeding behavior. We believe the future of aquaculture nutrition will rely not only on what is contained within a feed pellet, but also on how effectively that feed communicates with the animal's sensory system.

AminoTec exists to advance that future.

As Founder and Scientific Lead, I continue to direct the company's research program while actively seeking collaborations with universities, research institutes, feed manufacturers and aquaculture producers worldwide. By combining academic research with commercial innovation, my ambition is to establish AminoTec as a global leader in the science of chemosensory feeding stimulation.

The next generation of aquaculture will demand greater efficiency, improved sustainability and better animal performance. I believe chemistry—and specifically the intelligent application of amino acid science—will play an important role in achieving those goals.