

Paul Bingham, Ph.D.—Vice President, Research

Dr. Bingham brings to his position more than three decades of highly recognized scientific contributions that have helped drive the intellectual revolutions of the '80s and '90s in biology, including constructing the contemporary picture of how genomes build creatures. His diverse contributions as a molecular and evolutionary biologist have also illuminated the understanding of the fundamental logic of genetic design information and refined the understanding of the interface between molecular and evolutionary biology.

Most recently, Dr. Bingham has been pursuing a novel approach to cancer chemotherapy--an approach that exploits the now-well-characterized differences in patterns of energy metabolism between tumor cells and normal cells. Dr. Bingham and his long-time colleague, Zuzana Zachar, Ph.D., developed an approach to leveraging this crucial difference in energy metabolism in a way that may allow for the selective killing of tumor cells without killing normal cells. In contrast, virtually all chemotherapeutic approaches currently in wide use kill normal cells with appreciable frequency – resulting in side-effect toxicity that is often quite severe (occasionally even fatal). At Cornerstone, Dr. Bingham is working with clinical, regulatory, and drug development experts to bring this novel approach into human clinical trials.

Dr. Bingham has focused much of his career on seeking the answers to fundamental questions in biology, such as how genes build complex organisms. Along with his colleagues, he has made a number of discoveries that have greatly contributed to the biotechnology revolution. These include the original development of the transposon tagging technique for gene cloning, the discovery of basic mechanisms of transcriptional regulation, and the elucidation of on/off regulation of gene expression at the level of contingent processing of pre-mRNA, areas of investigation that continues to generate new insights.

In addition to his significant corporate and research responsibilities, Dr. Bingham is a lifelong educator. He has been affiliated with Stony Brook University since 1982, where he is currently Associate Professor in the Department of Biochemistry and Cell Biology and Faculty Director Emeritus of the College of Human Development. Dr. Bingham's theoretical work on human origins, properties, and history have led to a variety of ongoing educational projects, including the development and teaching of a course on biological theories of human origins and properties, and an online version of a course on theories of human evolution.

Before joining the faculty of the School of Medicine at Stony Brook, Dr. Bingham spent two years at the NIH branch in Research Triangle Park.

Dr. Bingham earned a Ph.D. in Biochemistry and Molecular Biology at Harvard University, a M.S. in Microbiology from the University of Illinois, and his B.A. at Blackburn College, in Carlinville, Illinois. He has published numerous papers, peer-reviewed articles, and book chapters on molecular and evolutionary biology, including his most recent book, [Death from a Distance and](#)



the Birth of a Humane Universe: Human Evolution, Behavior, History, and Your Future, which he co-authored with Joanne Souza.

In 2008, Dr. Bingham and his colleague, Dr. Zuzana Zachar, received the Michael Maffetone Award for Cancer Research from the Carol M. Baldwin Breast Cancer Research Fund.