

# BioSolution Designs Announces Formation of BeatBio Subsidiary to Develop Complex Multigenic Cardiovascular Therapies

*World-renowned heart researcher Litsa Kraniias is lead scientific advisor*

FREDERICK, MD, UNITED STATES, May 1, 2024 /EINPresswire.com/ --

BioSolution Designs is pleased to announce the formation of its first drug development subsidiary, BeatBio, created to develop complex multigenic therapeutics for cardiovascular diseases.

The company, headquartered in Cincinnati, is led by Thomas D Reed, PhD, who previously co-developed a multigenic plasmid DNA (pDNA) gene therapy (INXN-4001) at Triple-Gene, a cardiovascular gene therapy subsidiary of Intrexon (now Precigen – PGEN), which showed a functional improvement in 50 percent of heart failure patients after a single dose in early human testing.

BeatBio will deploy BioSolution Designs' proprietary Bird of Prey™ multigenic design and assembly system to develop complex therapies to treat cardiovascular and peripheral artery disease. The highly-engineered yet easy-to-use platform enables faster and cheaper design and assembly of a "library" of complex vectors, for screening multiple genetic combinations to prioritize the best therapeutic candidates.

Bird-of-Prey assimilates "design complexity" within its hierarchical architecture so that multigenic design is intuitive, subsequent multigene assembly is relatively simple, and as a result multigenic therapy discovery research is maximized to deliver an optimal candidate profile, typically with unprecedented speed.



BeatBio builds on Dr. Reed's knowledge and expertise, and by headquartering BeatBio in Cincinnati it represents a homecoming for him and the initiation of his long-term goal to capitalize on the expertise of the significant scientific community in Ohio's 'I-71 Cardiovascular Corridor.' "My plan is for BeatBio to synergize with the cardiovascular powerhouse that exists in Ohio: University of Cincinnati, Cincinnati Children's Hospital Medical Center, Cleveland Clinic, Case Western Reserve, Nationwide Children's Hospital, and The Ohio State University. In view of the rich biotech research and medical device infrastructure in Ohio, I am highly confident that BeatBio will serve as a catalyst for building a world class cardiovascular gene and cell therapy infrastructure with input from Ohio-based scientists and clinicians," said Dr. Reed.



Dr. Litsa Kranias will serve as BeatBio's lead scientific advisor. "BeatBio will benefit enormously from her expertise," commented Dr. Reed, pointing to her many years as an internationally recognized expert in cardiovascular disease. Dr. Kranias is a Distinguished Professor in the Department of Pharmacology and Systems Physiology at the University of Cincinnati College of Medicine and is credited with major roles in the early and ongoing clinical development of cardiac gene therapy candidates, MYDICAR® and AB-1002 (GenePHIT Trial).

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*Dr. Thomas D. Reed*

She was instrumental in Dr. Reed's training in cardiac

biology and expressed enthusiasm about working with him on his newest endeavor saying, "BeatBio integrates cardiovascular gene and cell therapy with innovative approaches to target the diverse causes of cardiovascular diseases. We are very fortunate to have its headquarters in Cincinnati where basic and clinical cardiovascular scientists closely collaborate to be at the forefront of new therapeutic developments."

BeatBio will begin operations at the Alloy Growth Lab in Norwood, OH, previously known as the Hamilton County Business Center, where Dr. Reed opened the Genomatix lab in 2000.

Genomatix relocated to Virginia in 2004 and grew into Intrexon (now Precigen).

Pat Longo, President and CEO of Alloy Development Co., the parent of Alloy Growth Lab, expressed his confidence in the potential for BeatBio, saying “Tom Reed showed us his creativity, passion and perseverance with the success of Genomatix/Intrexon, a unicorn that was started at Alloy Growth Lab. We look forward to working with the BeatBio team and Tom as they launch yet another venture here at the Alloy Growth Lab, which we believe has great opportunities to aid in the fight against heart disease.”

BeatBio is initiating a round of fund raising. Interested parties should contact Shruti Abbato, Chief Business Officer for BeatBio. BioSolution Designs said BeatBio is the first of several planned indication-specific entities it plans to create to develop multigenic therapies for complex diseases.

#### About BeatBio

Founded in 2024, BeatBio is pursuing the development of coordinated, multi-modal and multigenic therapies targeting the diverse causes of cardiovascular diseases. More information can be found at [www.beatbio.com](http://www.beatbio.com).

#### About BioSolution Designs

BioSolution Designs (BSD), the parent company of BeatBio, is a biotechnology invention studio developing first-in-class multigenic therapies for complex diseases using proprietary purpose-built multigenic technology platforms to create, control, deliver, and manufacture such therapies for cardiovascular, neurodegenerative, and musculoskeletal diseases. BSD invents multigenic platforms and commercializes them as biotools through its wholly owned OspreyBio operations. BSD also leverages the platforms to develop (up through IND filing) multigenic therapeutics and spin them out into disease area focused therapeutic companies. BSD's platform/biotools plus its therapeutics spinout business model enables distribution of external investments pursuant to specific investor interests in the platform/biotools business or the therapeutics spinouts, as each have different risks and return profiles. More information can be found at [www.biodzn.com](http://www.biodzn.com).

#### About Alloy Growth Lab:

Alloy Growth Lab is a marketplace where organizations, businesses, and communities can find the resources they need to grow. Alloy is a commercial capital lender, a growth lab for startups, and an economic development partner all under one roof, which makes them an active and influential business partner, able to assist any organization at any stage of growth. More information can be found at [www.alloydev.org/growth-lab/](http://www.alloydev.org/growth-lab/).

#### About Dr. Thomas Reed:

Dr. Reed has been a leading creative force and authority on harnessing the power of DNA for a broad range of applications. Dr. Reed was the Founder and Chief Science Officer of Genomatix, later known as Intrexon, and was the Co-Founder of Triple-Gene, a subsidiary of Intrexon. During

his 20+ year tenure at Intrexon, Dr. Reed pioneered technologies to improve the safety and efficacy of gene and cell therapies. He gained multidisciplinary expertise that enabled advanced technology acquisitions to complement Intrexon's in-house portfolio and stewarded the growth of commercial operations and business development, including strategic ventures in health, food, environment, and consumer sectors. Dr. Reed architected a genetic platform, as well as therapeutic candidates for oncology, cardiovascular, and rare disease treatments now advancing in the clinic at Precigen. Prior to founding Intrexon, Dr. Reed's scientific training focused on characterizing the structure and function of genes critical for cardiovascular development and pathophysiology. He received his training at the University of Cincinnati College of Medicine where he earned his PhD in the Molecular and Developmental Biology program. He previously earned his MS in Biological Sciences at Wright State University and a BS in Genetics at the University of California, Davis. He holds more than 30 US and international patents and is pursuing many more patent applications. More information can be found at [www.tdrdna.com](http://www.tdrdna.com).

About Dr. Evangelia (Litsa) Kranias:

Dr Kranias has conducted cardiovascular research for over 40 years, focusing on understanding the mechanisms regulating cardiac function and survival in health and disease. She has used an integrative approach with state-of-the-art techniques, spanning the molecular, biomedical, cellular, intact organ and intact animal levels to identify novel therapeutic targets. Her laboratory studies have been extended from the bench to the clinic, including the identification of human variants in key calcium-cycling genes that may serve as potential prognostic or diagnostic markers for the development of cardiac arrhythmia and heart failure. Importantly, Kranias identified phospholamban (PLN), a small protein in the heart, as a key regulator of contractility and a major mediator of the heart's responses in "fight-or-flight" situations. Currently, a clinical trial targeting PLN in heart failure, is in Phase 2. Dr Kranias has published over 270 original articles and 90 invited reviews. She has received several major awards and honors and holds several patents. She is also highly committed to graduate education and the training of postdoc fellows and young faculty. She directly mentored over 75 Ph.D. students and post-doctoral researchers and serves as a dedicated role model. She received her BA from the University of Chicago and PhD in Molecular Biology from Northwestern University, followed by her postdoctoral training at Northwestern University Medical School. As a faculty member at the University of Cincinnati, she held several administrative positions, including chair of her department, and Director of Graduate Education. She has also served on numerous National and International review committees and panels, as well as on the council of major Societies. Dr. Kranias has been invited to organize, chair, and speak at numerous National and International meetings. More information can be found at [www.researchdirectory.uc.edu/p/kraniaeg](http://www.researchdirectory.uc.edu/p/kraniaeg).

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