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Albano C Meli, Evangelia Kranias

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# Scientists on the Spot: calcium dynamics in heart function

Albano C. Meli<sup>1</sup> and Evangelia G. Kranias<sup>2\*</sup>

<sup>1</sup>ISERM Montpellier, France; and <sup>2</sup>Department of Pharmacology and Systems Physiology, University of Cincinnati Medical Center, 231 Albert B. Sabin Way, Cincinnati, OH 45267-0575, USA

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**Watch the interview here:** [https://youtu.be/z\\_Yr5RqvqY4](https://youtu.be/z_Yr5RqvqY4)



**Highlight:** In this *Onlife* interview, Professor Evangelia Kranias speaks about her outstanding research achievements on calcium dynamics in the heart and the potential future therapeutics for patients with heart failure and arrhythmias.

## Summary of interview

Prof. Kranias first spoke about what receiving the prestigious Basic Research Prize from the American Heart Association meant to her. This was a huge honour after many decades of great teamwork to understand calcium dynamics in the heart and find new therapeutic targets for heart failure and arrhythmias.

Prof. Kranias considered the identification of the role of phospholamban (PLN) as the major milestone discovery in her career. In particular, its function at rest and under stress (fight-or-flight) conditions which allowed designing potential therapeutic approaches to target PLN or its partners in heart failure and arrhythmias.

The PLN mutations found in patients with heart failure and arrhythmias was the beginning of a foundation, organized by the patients and in collaboration with Prof. Kranias, to further support the development of potential therapies to treat these patients.

## Biography:

Prof. Evangelia (Litsa) Kranias is Hanna Professor of Cardiology and Distinguished University Research Professor in the Department of Pharmacology and Cell Biophysics at the University of Cincinnati. She is known worldwide as 'the mother of phospholamban', and for her expertise in the molecular mechanisms regulating cardiac calcium homeostasis. She is originally from Greece. She received her PhD in Molecular Biology and Biochemistry at the University of Northwestern in 1974. She then worked as a postdoctoral fellow and instructor at the University of Northwestern Medical School until 1977. She joined the faculty of the University of Cincinnati College of Medicine in 1978. She has expertise in a wide range of disciplines, including molecular biology, biochemistry, and physiology. She has published over 220 original peer-reviewed research articles and gave several national and international conferences. She has been awarded a National Institutes of Health Research Career Development Award and a MERIT award. In 2019, she received the Basic Research Prize from the American Heart Association. She is also a Consulting Editor of *Cardiovascular Research*. She currently co-ordinates a transatlantic Leducq network called CURE-PlaN to investigate the basic and clinical mechanisms related to heart failure patients harbouring phospholamban mutations.

Next, Prof. Kranias discussed how she sees the future in treating heart failure patients. She explained that a better and deeper understanding of the molecular mechanisms is needed to go beyond current treatments for this disease. Importantly, the mechanisms occurring at early stages must be known to try to prevent deterioration of the heart. To that end, newer available technologies allow researchers to ask more detailed questions and obtain more integrative answers. In that way, they can move faster and more efficiently towards therapeutic solutions.

Prof. Kranias considered that the crossroad between scientists and clinicians is now very exciting in the cardiovascular research field, because things are moving very quickly, especially for young scientists. Finally, she considered that love and passion for cardiovascular research are needed by young scientists to really achieve a brilliant scientific career. To her, the keys to a successful scientific career also comprise innovation, resiliency, and a focus on research goals.



— Dr Albano C. Meli  
INSERM Montpellier, France

— Professor Evangelina Kranias  
University of Cincinnati, Ohio, USA

**Dr Albano C. Meli from INSERM Montpellier (France), interviews Professor Evangelina Kranias, Hanna Professor of Cardiology and Distinguished University Research Professor at the University of Cincinnati (USA).**