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***Caenorhabditis elegans* as a model organism for studying the anti-aging potential of exotic fruit extracts**

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The unprecedented increase in human life expectancy poses a major challenge to modern developed societies: How can we stay healthy and live longer? To meet the public demand, the pharmaceutical and food industries have been introducing many plant-based products, for example the so-called superfoods, superfruit juices and extracts, as an effective strategy to counteract the negative effects of aging. The European Union is the world's largest market for superfoods, accounting for more than 40% of the total world imports. Although largely consumed, most of these products fall into the category of dietary supplements lacking a science-based evidence of safety, quality and efficacy. The nematode (roundworm) *Caenorhabditis elegans* is a well-established model organism in biology, especially in the field of aging research. *C. elegans* has successfully contributed to the elucidation of molecular pathways implicated in the human aging process and development of

age-related diseases. It has a short life cycle, large offspring and transparency throughout the whole lifespan. Therefore, *C. elegans* has been emerging as a cost-effective alternative to animal testing in medium/high-throughput screening of natural products with potential anti-aging activity. In this talk, we will present a straightforward workflow to investigate the benefits and to unveil the mechanism of action of exotic fruit extracts on the promotion of health and longevity in *C. elegans*.

Speaker Biography

Mariana Roxo is currently a PhD student at the Institute of Pharmacy and Molecular Biotechnology, Heidelberg University, Germany. Her research focuses on the antioxidant and anti-aging potential of emergent and neglected exotic fruits from Brazil, using the nematode *Caenorhabditis elegans* as a model organism. She obtained her master's degree in Biodiversity and Plant Biotechnology at the University of Coimbra, Portugal, in which she investigated the anti-inflammatory and antifungal activities of essential oils, isolated from Iberian endemic *Thymus* species.

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