

## Names, titles & Affiliations

**ABSTRACT:** Individuals who experience severe trauma can often experience loss of tissue function and disability due to deficient cardiac muscle regeneration. The long-term goal of this work is to develop an advanced implantable system with defined physical and biochemical signals that supports muscle growth. Lack of proper vascularization is the main issue that the highlighted experiments are trying to incorporate [4]. **The objective of this ongoing project is to identify in vitro and in vivo methods that supports muscle growth and efficient vascularization.** Vascularization of the inactive cardiac tissue will promote regular organ function. Methods performed in the past incorporate both in vitro and in vivo strategies that use a variety of different approaches. Different culturActa