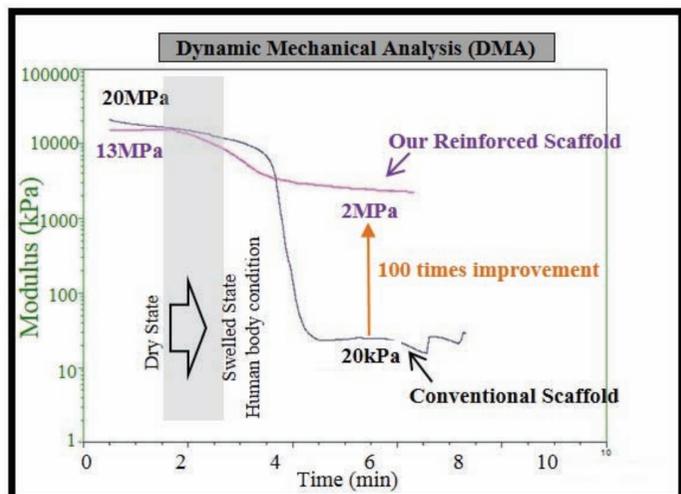




# A NOVEL DESIGN FOR HYBRID BIODEGRADABLE BONE SCAFFOLD/IMPLANT WITH ENHANCED MECHANICAL PROPERTIES

## ADDRESSING THE DRAWBACK OF INSUFFICIENT MECHANICAL STRENGTH IN CURRENT BONE SCAFFOLDS BY PROPOSING A NEW DESIGN

Metallic implants are widely used in bone treatment, but unfortunately these implants are not degradable, and second surgery is often required for their removal from the body. There have been serious attempts among researchers and manufacturers to produce biodegradable implants/scaffolds to avoid the need for the second surgery. However, poor mechanical strength in these products prohibits their commercialization.



100 times enhancement in the modulus of our new scaffold

## MILESTONES

1. **MONTH 1 TO MONTH 5:** Fabrication of scaffolds
2. **MONTH 2 TO MONTH 8:** Characterization of the scaffolds
3. **MONTH 8 TO MONTH 12:** Market analysis for the product



SCAN QR CODE FOR TAYEBIGROUP.MU.EDU



Lobat Tayebi, PI

## ABOUT OUR TEAM

**Dr. Lobat Tayebi** is an Associate Professor and Director of Research at Marquette University School of Dentistry (MUSoD). Scaffolds will be made and characterized by Dr. Tayebi and her students at MUSoD.

## BEYOND BOUNDARIES Research in Action

This project will provide new transformational research opportunities at all levels of Marquette's campus,

The product of this project is innovative with very good chance of being commercialized (all the materials involved are FDA-approved), and the PI intends to establish a start-up company based on this product, which is in line with entrepreneurship activities emphasized in Marquette's mission and the strategic plan.

Beyond regular research activity in this project, students from the Department of Marketing at the College of Business will be invited to help the students of the dental school on commercialization of this product (writing a business plan and marketing of the product). It will be a unique and educational opportunity for two groups of students, one major in science and one major in business, to interact closely for commercializing a new product.