Abstract

Self-assembling peptide hydrogels (SAPH) are a class of injectable scaffolds that present a paradigm in drug development and biomaterials. Facile self-assembly of monomeric/multi-meric constituents result in high epitope presentation of biological signals. Persistent signaling, in situ bolus delivery and demonstrable modification to actuate specific biological responses allow development of novel classes of biomaterials that behave as scaffolds and drugs. This presentation will describe a few examples of novel peptide-biomaterial drugs that are capable of site-specific delivery to tissue, potentiating numerous tissue remodeling responses:

- Tissue regeneration/ revascularization
- Drug delivery
- IGF driven diabetic fracture healing
- COVID therapeutics

A focus is also made to describe entrepreneurship and innovation helping bridge the gap between academia, industry and clinical medicine.