Degenerative disc disease and the associated pandemic of low back pain, knee meniscus tears, and snoring and obstructive sleep apnea appear to be a diverse group of highly prevalent and poorly addressed maladies. However, they have in common mechanically insufficient tissues exposed to demanding repetitive loads, with inadequate regeneration, whether due to nutritional deficiencies or too frequent periods of micro-trauma. Exogenous crosslink modification of the tissue’s ECM is an emerging strategy for immediate, injectable restabilization of the native matrix in these types of tissues. Our research group pioneered this treatment approach and has spent over a decade investigating the capabilities of crosslink augmentation of the intervertebral disc, and is now branching out to explore the utility of this approach in a variety of other applications. This seminar will aim to familiarize the audience with this novel technology and give an overview of our previous work.