



超越バイオメディカルDX研究拠点

## 第3回 超越バイオメディカル DX 研究拠点 エクセレントコアセミナー

日時：令和5年10月11日（水）16:00-17:00

開催場所：JAIST イノベーションプラザ 2F シェアードオープンイノベーションルーム（要予約：定員30名）

### The Engineering of Injectable Therapeutics for Regenerative Medicine

#### Professor Myron Spector

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There is a compelling need for readily administered injectable therapeutics for regenerative medicine: for the local delivery of bioactive agents to lesions in otherwise healthy organs. With aging populations around the globe, people are living longer but with a diminished quality of life due to a multitude of medical problems. The injectability of the treatment becomes essential for older individuals who cannot tolerate surgery, and also for the very young. Moreover, injectable therapeutics more readily enable the early treatment of problems, thus delaying or preventing their progression. That the need for medical treatments for regenerative medicine is so great, globally, also raises the issues of patient accessibility, the cost of the treatment, and the attendant clinical and medical center expenses; all of which benefit from injectability. We have been fortunate to have an array of injectable biopolymer gels available to meet these pressing needs. Questions about the agents to deliver are now being answered by recent findings of the cell and molecular biology that underlie the pathology of the medical problems, and can identify targets for treatment. Examples to be presented include: gelatin/hyaluronic acid gels incorporating human retinal cells for the treatment of blindness (in the mouse and rat); and gelatin gel incorporating EGF for the treatment of spinal cord injury (in the rat).

講演者略歴：

Myron Spector is Professor of Orthopedic Surgery (Biomaterials) at the Brigham and Women's Hospital and Harvard Medical School, and Senior Lecturer at the Massachusetts Institute of Technology. He received his Ph.D. from Carnegie-Mellon University (1971). Over 30 years ago, he was responsible for the development of a bone graft substitute material based on anorganic bovine bone (Bio-Oss, Geistlich Biomaterials, Wolhusen, Switzerland). The company website notes that 15 million patients throughout the world have been treated with the material, principally for oral and maxillofacial bone reconstruction. Professor Spector has been the recipient of awards from: the American Academy of Orthopaedic Surgeons/Orthopaedic Research; Society for Biomaterials; and the Hip Society. <https://orcid.org/0000-0003-3328-4858>.

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