

**Johns Hopkins University, Department of Mechanical Engineering
2020 Fall Virtual Seminar Series: Class 530.803**

Thursday, November 5, 2020 | 3:00 PM via Zoom

<https://wse.zoom.us/j/91752450849>

Meeting ID: 917 5245 0849 | Passcode: 605594

“Mechanics of the extracellular matrix and its biophysical consequences”

Presented by [Professor Herbert Levine](#)

Professor of Physics and Bioengineering, Northeastern University

In order to metastasize, cancer cells must leave the primary tumor and transit through collagen-rich fibrous material known as the extra-cellular matrix (ECM). This material has interesting mechanical properties, properties which directly affect its reciprocal interaction with cells. This talk will provide an introduction to recent efforts to formulate simple yet informative mathematical models of ECM behavior and compare these to increasing quantitative experimental data.



Dr. Herbert Levine is a Professor of Physics and Bioengineering at Northeastern University and has adjunct faculty positions at Rice University and MD Anderson Cancer Center. For several decades Dr. Levine has been an acknowledged leader in applying methods from physical science to living systems. He has served as chair of the Biological Physics division of the American Physical Society and the Biological Physics interest group of the National Academy of Sciences, to which he was elected in 2011. He is on the editorial board of PNAS, has been an associate editor of Physical Review Letters, and recently finished a term as editor-in-chief of Physical Biology. Currently he is the lead of the Northeastern branch of a National Science Foundation Physics Frontier Center devoted to theoretical biological physics and the coordinator of an international network of graduate students working on the physics of living systems.