BIO-INSPIRED ELECTRONICS: THE POWER OF *DE NOVO* PEPTIDE DESIGN

Nurit Ashkenasy

Department of Materials Engineering and the Ilse Katz Institute for Nanoscale Science and Technology,
Ben-Gurion University of the Negev, Beer-Sheva, Israel

Billions of years of natural evolution have resulted in a vast array of proteins that drive diverse biological processes. Harnessing the remarkable functionality of these natural molecular machines offers immense potential for advancing modern technologies. In line with this vision, our research group utilizes *denovo*-designed peptides to create materials that not only mimic key elements of proteins but also enhance their suitability for electronic applications. In this talk, I will present the development of electron- and proton-conducting materials, as well as advanced surface functionalization layers. These examples illustrate how *de novo*-designed peptides serve as powerful building blocks for novel, high-performance, biocompatible, and environmentally friendly organic and hybrid electronic materials.

References

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