The research of Professor Cohen-Karni has focused on the unique interfaces between biology and nanoscience and nanotechnology, by applying techniques from chemistry, physics, and materials science to explore the rich world of biology. His interests cover a broad area: from the interactions of biomolecules, cells, and tissues with nanostructures (such as nanowires, nanotubes and nanoparticles), to the electrical properties of tissues and cells interfaced with nano-devices.

Professor Cohen-Karni received the Gold Graduate Student Award from the Materials Research Society in 2009, and received the 2012 International Union of Pure and Applied Chemistry Young Chemist Award. In 2014, he was awarded the Charles E. Kaufman Foundation Young Investigator Research Award. In 2016, Dr. Cohen-Karni was awarded the NSF CAREER Award.