

Assaf Zinger

Short Bio

At the Technion- Israel Institute of Technology, my research group is developing **biomimetic nanoparticles (NP)** to treat neurodegenerative pediatric diseases, traumatic brain injuries, and breast and ovarian cancers. Our lab's main goal is to be **one of the world's leading research groups in developing targeted biomimetic NP** that can encapsulate a wide range of therapeutic molecules, including mRNA, proteins, and small molecules, thus **revolutionizing how we treat numerous diseases**. For example: **(1)** We improved the **therapeutic outcome of pancreatic cancer** treatment using a controlled-release enzyme delivery system. **(2)** We mimic white blood cells binding to inflammatory sites and develop a macrophage **biomimetic drug delivery system**. **(3)** We developed the **first ever neuron biomimetic nanoparticles** that mimics how neurons bind to other neurons through homotypic cell-cell adhesion protein. All these breakthroughs were published in top-tier journals (**1737 citations and h-index 17**).



Personally, I was awarded more than **15 international and national excellence awards**, among them: the **Alon Scholarship for Outstanding Young Scientists**, the most prestigious scholarship from the Israeli Council for Higher Education; the international **Umbrella Award**, focusing on Life Science and Engineering; the **Norman Seiden Fellowship in Nanotechnology and Optoelectronics, Career Advancement Chair**, and the **Young Investigator Award**, from the International Controlled Release Society focus group. I was also chosen as a member of the **Global Young Academy** and the **Lindau Noble Laureates Meeting** and **organized three international and three national conferences**. I am holding **two Adjunct Assistant Professor positions** in the Cardiovascular Science and Neurosurgery Departments at Houston Methodist Academic Institute, TX, USA, and will be appointed as a **Visiting Professor** at the University of Turin, Italy, this April. Finally, last year, I was awarded the prestigious **ERC-starting grant** for exploring how human breast milk biomimetic nanoparticles might pave the way for a new oral drug delivery system.