

Yuval Garini

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Professor Yuval Garini '87, M.S. '89, Ph.D. '94 heads the Nano Dynamics Lab in the Faculty of Biomedical Engineering and is affiliated with the Russell Berrie Nanotechnology Institute. He also serves as a Technion Faculty Ambassador.

Prof. Garini works in the areas of biophysics and nano-scale biomolecules. Biophysics is an interdisciplinary science that tries to explain biological phenomena using physical models. His research interests include genome organization in the nucleus, protein-DNA interaction, cancer genetics, spectral imaging, and time-resolved microscopy.

He is developing and using a broad range of experimental tools including optical microscopy, DNA origami, and single-molecule methods. In one project, he and his colleagues created a novel method to identify multiple biomarkers for cancer using optical spectral imaging systems. The detection of biomarkers is fundamental to the development of personalized cancer treatment protocols.

Prof. Garini is also an entrepreneur who holds 25 patents, and co-founder of Pentaomix. The Israel-based company is developing methods for matching the right drug to cancer patients, based on hyper-spectral imaging and AI.

Prof. Garini earned all three degrees in physics at the Technion. After finishing his Ph.D. in 1994, he spent eight years at Applied Spectral Imaging, a company that develops advanced biomedical imaging. He then joined and became a professor at Delft University in the Netherlands, and Bar-Ilan University before joining the Technion faculty in 2020.

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