



MARKETPLACE

Shlomo Maital

From eggheads, golden eggs

EGGHEADS ARE INTELLECTUALS – such as professors – out of touch with reality. Dan Vilenski believes he knows how to help eggheads lay golden eggs – start-ups that generate wealth, jobs and exports.

It's not just a theory. Vilenski has proof of concept, with successful start-ups emerging

Shedding light on the winning formula for transferring technology from university labs to the marketplace

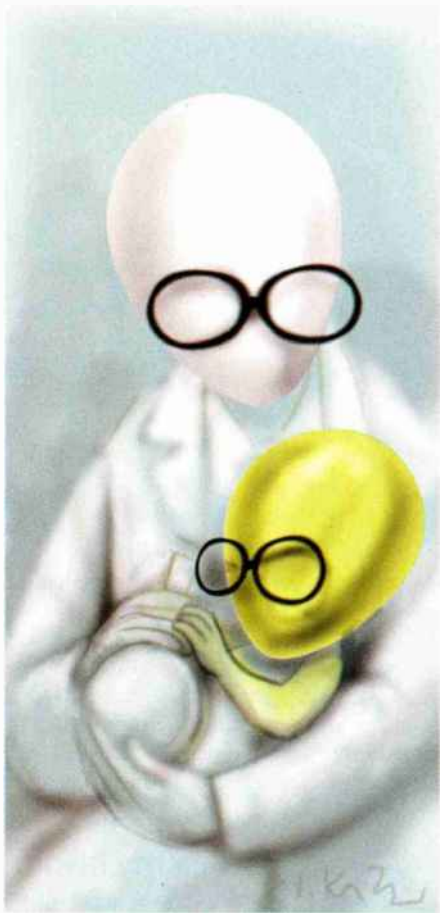
from the highly productive lab of Stephen Lipson, a professor of optical physics at the Technion-Israel Institute of Technology.

Vilenski (see *KITCHEN UNIVERSITY, THE JERUSALEM REPORT*, May 31) brought three major American high-tech companies to Israel – Kulicke & Soffa, KLA and Applied Materials. As head of the US-Israel Bina-tional Industrial R&D Foundation (BIRD-F), Vilenski found many strategic US partners for struggling Israeli start-ups. Lipson served as his scientific mentor for over 20 years.

The term “technology transfer” doesn't begin to convey how tough it is to convert basic research into market success. It's more like Death Valley – a place in which products, when trying to make the leap from lab to market, lack funds, management skills and sales channels – and often die as a result.

A student project in Lipson's lab led to an idea: Use an old technology known as surface plasmon resonance in a new way. The process can identify proteins on a “biological chip,” or microprocessor, and can classify many different proteins at one time. It does this by bombarding proteins with light, then classifying them according to the light that bounces back.

With Lipson's know-how, a start-up, ProteOptics, was launched in 2000, with Lipson's student, Ariel Notcovich, as CEO. It made



was evolving into proteomics, the study of proteins triggered by genes. Bio-Rad was an ideal strategic investor.

“A strategic partner understands the market, can finance the development, has a business approach and has a world sales and service infrastructure,” Vilenski argues. “In my opinion, all these elements are served better by a proper strategic partner than a financial partner.”

“A Bio-Rad director asked us, at an early stage: Will this work?” Lipson said. “We did some lab experiments, reflected, and changed direction from a technology that didn't work, couldn't work, to one that did. This switch was crucial. Bio-Rad was patient and supportive all along.”

Today ProteOptics is Bio-Rad Haifa, situated on the Technion campus. Its technology is the heart of a \$250,000 machine with a consumable bio-chip widely used by pharmaceutical firms and other scientists that identifies 36 proteins at one time and is sold globally by Bio-Rad.

Lipson's ideas have created at least two other successful start-ups, both located in a development town, Migdal Ha'emek – CI Systems, which also makes test equipment for labs, and Applied Spectral Imaging (ASI), whose spectral technology colors images with multiple colors, beyond the basic red, green and blue previously offered by digital cameras.

Lipson himself is firmly and irrevocably a bench scientist. But he has a rare knack of seeing how his discoveries can potentially become commercial products. He patents them before publishing. And his students love to do the implementation, aided by strategic partners.

“For instance is not a proof,” goes a Yiddish saying. Indeed, scientists, like Lipson, and matchmakers, like Vilenski, are rare talents. As a result, golden eggs from eggheads will likely remain an exception, rather than the rule. ●

lab instruments for rapidly identifying proteins much faster than existing devices.

Vilenski brokered a match. He found Bio-Rad, a US company that for over 50 years produced and sold innovative lab equipment. Bio-Rad is led by its founder, Norman Schwartz, and his son David. Lipson, too, is part of an extended father-son team. His textbook *Optical Physics* is authored by Lipson, his late father, Henry, and his son, Ariel.

Bio-Rad began investing in ProteOptics in 2001, and eventually acquired the firm in 2006. Bio-Rad thought Lipson's technology could generate a new device for analyzing proteins, just what scientists needed at a time when genomics, the study of genes,

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