

BioDesign : Medical Innovation

Hebrew University - Hadassah Medical Center



Solutions For a New Economy

Israel is a significant player in the life sciences industry as a result of its interdisciplinary capabilities, which bring together cutting-edge medical institutes, an excellent research base, software expertise, and top engineers.

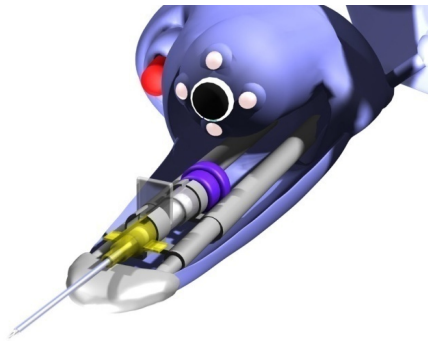
BLOOMING INDUSTRY

Of the existing 800 life sciences companies, most were founded during the last decade. In fact, more than half of the industry was established in the last five years. Remarkably, close to 30% of these new companies are already revenue-generating entities.

The industry is heavily biased toward the medical device sector, with 54% of the companies. Biotech is the second largest with 19%, and the pharmaceutical sector is third with 10% of local life sciences companies.

Introduction

The last decade has seen an exponential growth in scientific and medical knowledge, coupled with an increasingly complex technology. Regrettably, health care costs have been rapidly increasing over the same time period. It is hoped that medical innovation would drive a more efficient and cost-effective health care system. However, the process of creating new, cost-effective medical devices requires an in-depth understanding of multiple disciplines such as medicine, engineering, and finance, that few could master alone. This is the main reason why many innovative ideas fail before reaching the market. Therefore, there is a need for a truly multi-disciplinary team-based course that focuses on medical innovation.



BioDesign is an incredibly successful program created at Stanford University, and brought to the Hebrew University and its affiliated Hadassah Medical Center. In BioDesign, teams of engineering students, clinicians and business students take on a medical challenge and devise a solution. The solution is then taken through prototyping, testing, patent application and business planning. The program has drawn several venture capital firms and medical device companies that have taken a keen interest. Many such projects have already advanced to market.

Learn more at: BioDesignIsrael.com
You Tube Channel: bit.ly/biodesign

BioDesign at the Hebrew University

The BioDesign Innovation program is headed by Prof. Chaim Lotan, director of the Heart Institute at Hadassah Medical Center and Dr. Yaakov Nahmias, director of the Grass Center for Bioengineering at the School of Computer Science and Engineering of the Hebrew University of Jerusalem in partnership with Prof. Dan Galai, former dean of the Hebrew University School of Business Administration.

BioDesign: Medical Innovation

BioDesign: Medical Innovation course is a joint effort of Hadassah Medical Center, the Bioengineering Program of the Hebrew University of Jerusalem, and the School of Business Administration. The course is taught over one academic year. The program takes outstanding medical fellows, bioengineering and business graduate students and tutors them in the science and practice of bringing a medical innovation to the market.



Program Features and Benefits



- Biotechnology is the fastest growing sector in the Tel Aviv stock exchange and is widely considered to be the driving force of the next century.
- The Hebrew University program in BioDesign offers an integrated approach to medical innovation, aiming to create dozens of start-up companies revolutionising the region.
- The 2012 class already generated four successful projects featured in Fox News, Med Gadget, Science Daily, and MSNBC.
- Biodesign Innovation is expected to be a revenue-generating endeavour, as products reach the market through technology-transfer companies such as Yissum and Hadassit.

PARTICIPATING PARTNERS

Center for Bioengineering
School of Computer Science and Engineering
School of Business Administration
Hadassah Medical Center

INDUSTRY SPONSORS

Boston Scientific, United States
Terumo Corporation, Japan



Major Points

- BioDesign: Medical Innovation is taught over one academic year by academic and industrial experts
- Groups of outstanding students include medical fellows (MD), graduate students in Bioengineering (PhD) and graduate students in Business Administration (MBA)
- Students gain academic training and practical tools to becoming successful entrepreneurs
- Projects develop into actual products and spin off companies during each year of the program
- The first class of 2012 generated four start-ups:

<http://www.foxnews.com/health/2013/08/26/intubation-robot-could-help-patients-breathe/>

<http://www.timesofisrael.com/a-no-fuss-no-muss-aid-for-obesity/>

<http://www.medgadget.com/2013/09/sagiv-semi-automatic-iv-catheter-insertion-system.html>

<http://israel21c.org/health/new-biomed-accelerator-yields-better-dentures-obesity-control/>

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