

# Smart Vaccines for Entrepreneurs

A Healthcare Start-Up Initiative

Spring 2010 Syllabus

## Course Description

Vaccines have had an enormous positive impact on global health saving literally millions of lives, preventing pandemics, and improve the duration and quality of life. Vaccines have the advantage of preventing diseases before they occur and lowering the burden of associated healthcare costs. Diseases such as polio, measles, mumps, tetanus and smallpox have nearly been eradicated by the use of vaccines. Now with the threat of global pandemics and bioterrorism, there is an increased awareness of the value of vaccines. Global travel, climate changes, and the close proximity of humans to animal reservoirs of infectious agents all add to the risk at which diseases spread worldwide. There are many diseases that have yet to be conquered and remain ripe for vaccine design research: HIV, Hepatitis C Virus, TB, Malaria, Epstein-Barr virus, West Nile, Japanese encephalitis, Lyme disease, and Cancer, just to name a few. Given the range of diseases which potentially could be prevented by vaccines, the size of the patient population and the unmet medical needs, vaccine research and development is poised to lead the way for the creation of new vaccines, new vaccine related technologies and new biotechnologies.

In this course we will teach entrepreneurs, scientists, and healthcare workers the theory and practice of vaccine design and the principles of biotechnology company start-up. Participants will develop skills and knowledge related to the development of 'smart vaccines' and infectious disease diagnostics and will be trained by experienced and successful vaccine and business experts. In order to encourage participants to bring together science and business and move from "science to start-up", we'll offer a cash prize for the best business plan submitted as the final project in this training program.

## Goals:

The goal of the seminar series is provide the students with the framework for starting RI-based companies in business areas related to vaccines.

## Structure:

In **Part I** of the course, we will survey a variety of business areas that support vaccine research. At present, none of these businesses are located in RI and many opportunities exist for RI-based start-up companies in these areas. This part of the course is designed to give the students ideas for potential business ventures. Students will also learn directly from biotechnology executives the different aspects of running a company such as funding, operations, and legal aspects. **Part II** of the course we will focus on specific business training on how to write a business plan. The Small Business Administration's web site ([www.sba.gov](http://www.sba.gov)) will be used for source material. Additional reading will be provided by the speakers.

## Requirements:

Basic Biology/Immunology background **or** familiarly with business processes will be required for the course. Our intent is to bring together biologists with students with a business background so that the two groups will work together. Students will be selected for the course based on their background and interest in starting a healthcare-related company in RI. Students will be required to write a business plan for the final assignment of this course. The business plan may be written by small teams (2-3 students). A 2500 dollar cash prize will be awarded for the best business plan if the team will use the funds to start a company. Funds may be used to build a website or for incorporation fees, for example. The business plans will be judged by a team of scientists and business experts.

Attendance is mandatory and only qualified excuses for absences will be accepted.

## Contact Information:

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<u>DATE</u>	<u>TOPIC</u>	<u>PRESENTER</u>	<u>CLASS MEETS – Providence Campus</u> <u>Room 302</u> <u>Thursdays from 3:00 PM to 5:00 PM</u>
May 13, 2010	Introduction	<b>Anne De Groot, M.D.</b> <i>URI, I'Cubed</i>	Practical Uses of Immunology Market Categories: Vaccines, Therapeutics, Diagnostics, Delivery Systems  Basic Immunology Related to Vaccine Design
May 20, 2010	Businesses that Support Vaccines	<b>Gary Ostroff, Ph.D.</b> <i>UMass School of Medicine</i>  <b>Lenny Moise, Ph.D.</b> <i>URI, I'Cubed</i>	Vaccine Delivery Systems  Protein Production for Vaccines, Peptide Synthesis and ELISpot Reading Systems, Flow Cytometry.
May 27, 2010	The COO Perspective  Businesses that Support Vaccines	<b>Bill Martin</b> <i>EpiVax, Inc.</i>  <b>Mike Settles</b> <i>TGA</i>	Operating a Biotechnology Company: The Big Picture  Animal Studies in a CRO: Startup and Operations
June 3, 2010	Businesses that Support Vaccines  The Legal Perspective	<b>Jim Pelligrini</b> <i>Becton, Dickinson &amp; Co.</i>  <b>Fred Stolle, Esq.</b>	The Business of Biotech and Life Sciences from an Entrepreneurs Perspective  Starting a Company: The Legal Perspective
June 10, 2010	Businesses that Support Vaccines  How to Fund a New Company	<b>Ed Balkovic, Ph.D.</b> <i>QC, Technical Services, Genzyme</i>  <b>Barrett Bready, M.D.</b> <i>Nabsys</i>	Commercial Vaccine Production  Options for Funding a New Company
<b>Business Training</b>			
June 17, 2010 <b>NOTE: THIS SESSION WILL RUN FROM 4-6PM</b>	Writing a Business Plan	<b>Doug Hales, Ph.D.</b>  <b>Bob Comerford, Ph.D.</b> <i>URI, School of Business</i>	Operations & Supply Chain Management for the Healthcare Industry  Executive Summary
June 24, 2010	Writing a Business Plan	<b>Dan Sheinin, Ph.D.</b>  <i>URI, School of Business</i>	Marketing and Sales Management  Market Analysis
July 1, 2010	Writing A Business Plan	<b>Tony Wheeler, Ph.D.</b> <i>URI, School of Business</i>	Company Description/ Organization and Management
July 8, 2010	Writing a Business Plan and Application of Financials  The Business Plan Competition	<b>Frank Mancieri, MBA</b> <i>RIC</i>  <b>Denice Spero, Ph.D.</b> <i>URI, I'Cubed</i>	Funding Request/Financials  Financials for a New Company  Requirements for the Class Competition
<b>August 1, 2010</b>	<b>FINAL Business Plans Due</b>		