



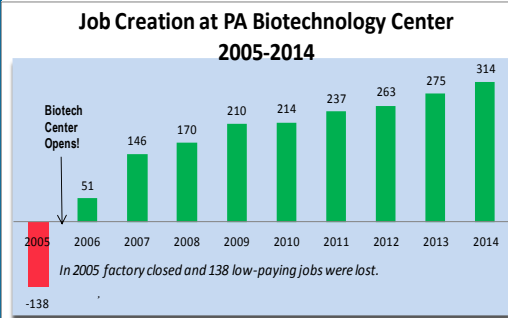
Baruch S. BLUMBERG™ INSTITUTE

Hepatitis B Foundation

Formerly known as the Institute for Hepatitis and Virus Research

Big Year for the PA Biotechnology Center!

We are one of the best! The Philadelphia Business Journal included the PA Biotech Center in a Special Report -- *Transformations: 50 things that will change Philadelphia in 2015.*



The PA Biotech Center continues to grow!

A \$4.6M federal grant was awarded to the PA Biotech Center for a new 38,000 sq ft expansion. Currently, the Center is full and facing growing demand for new entrepreneurial labs. *The expansion will enable another 100 new high tech jobs and new discoveries.*



We are making news! National Public Radio's "THE PULSE" program prominently featured the **PA Biotech Center as a model of economic recovery and innovation** during the recent economic downturn.

BSBI PARTNERS

- Hepatitis B Foundation
- PA Department of Health
- PA Biotechnology Center of Bucks County
- Drexel University College of Medicine
- Delaware Valley College
- Ben Franklin Technology Partners of Southeast PA
- University of Pennsylvania

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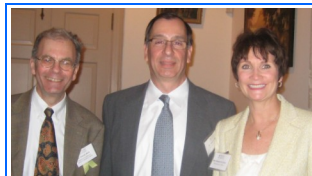
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THE MEASURE OF OUR SUCCESS

Novira hepatitis B drug now in people! Novira launched a first in class all new HBV drug into Phase I/II human clinical trials. This is a gigantic step for this Biotech Center start up!

OnCore, more than one in a million! Make that more than \$375 million! Created by former Pharmasset scientists, who are now at the PA Biotech Center and Blumberg Institute, OnCore Biopharma was valued at \$375 million in its 50:50 merger agreement with Tekmira. At a current \$1 billion valuation, the new OnCore-Tekmira is the biggest biotech company solely dedicated to HBV!!!



State Rep. Marguerite Quinn (right) meets Blumberg professor & OnCore co-founder **Dr. Mike Sofia** (center) who invented the cure for hepatitis C, with Blumberg President **Dr. Tim Block**.

Synergy raises another \$200 million! This Center original has raised more funds to complete its definitive Phase III clinical trials for its anti-gastrointestinal medications.

2014 Marcum Innovator of the Year awarded to PA Biotech Center Company! Ren Capocasale, Founder/CEO of FlowMetric, was profiled in the Sept/Oct issue of Philadelphia Smart CEO Magazine as a 2014 Marcum Innovator of the Year for medium-sized biotech and healthcare companies. FlowMetric has added affiliate company, FlowMetrics Diagnostic, as well as two spin-off subsidiaries.



State Sen. Joe Scarnati and Chuck McIlhinney (middle, in lab coats) visit PA Biotech Center company leaders: **Ren Capocasale**, Flowmetrics (left); and **Dr. Kunwar Shailubhai**, Synergy (right).



State Sen. Robert Mensch (left) visits PA Biotech Center and meets **Dr. Mike Goetz**, head of the Natural Products Collection donated by Merck & Co. to the Blumberg Institute.

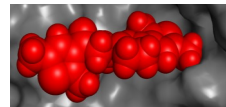
ECONOMIC STIMULATION & JOB CREATION THE R-I-T-E WAY!
RESEARCH - INNOVATION - TRAINING - ENTREPRENEURSHIP

RESEARCH HIGHLIGHTS



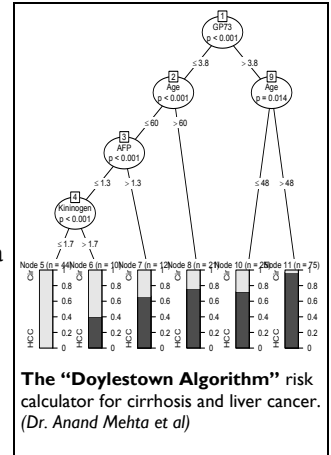
Blumberg Institute recruits 4 world-class scientists!!

L to R: Drs. Ying-Hsiu Su, Jinhong Chang, Tim Block, and Ju Tao Guo.



Blumberg Institute liver cancer drug docking into the YES kinase. (Photo by Dr. John Kulp, BSBI)

- **We are the BIGGEST!** Baruch S. Blumberg Institute triples number of labs with **Profs. Timothy Block, Ju Tao Guo, Ying-Hsiu Su and Jinhong Chang** and their labs joining the Institute!! Adding more than 20 new faculty and staff represents the largest growth spurt since our founding, making the Blumberg Institute the largest concentration of nonprofit scientists devoted to hepatitis B and liver cancer in the U.S.!!
- **New GI drug is now in people for testing!** Plecanatide, developed by Synergy CSO and Blumberg prof. **Dr. Kunwar Shailubhai** completed a successful Phase IIb clinical trial in 951 patients for the GI disorder.
- **Putting the sting in HBV and Cancer!** Our new first-in-class “STING” agonists were shown to work against HBV, in animals, with our Drexel partners. (Guo et al, 2014)
- **Detecting cancer early and “non-invasively.”** Our new “Doylestown Algorithm” risk calculator developed with our Drexel partners has now been tested with samples from more than 2,000 people, and has been shown to identify dozens of cases of liver cancer that were previously undetected. (Wang et al, in prep)
- **Getting noticed!** Our paper in *Antiviral Research* was the “Most Down-Loaded” of the year in its class, again for the second year in a row.
- **Looking good!** Our 3-D model of the YES kinase led to the discovery of a new potential liver cancer drug. (Kulp et al, in prep)
- **The Best and the Brightest come here!** Distinguished Scientist and one of the world’s most renowned virologists **Prof. Thomas Shenk**, from Princeton University, has started a company at the PA Biotech Center to bring his new technologies for antiviral agents into potential clinical use.



The “Doylestown Algorithm” risk calculator for cirrhosis and liver cancer. (Dr. Anand Mehta et al)



Dr. Thomas Shenk, from Princeton U., creates new company at PA Biotech Center.

TO THE PUBLIC’S HEALTH

The Hepatitis B Foundation (HBF) established a national network, called **CHIPO**, to meet the needs of African immigrants in Philadelphia and across the U.S. who face high rates of hepatitis B and liver cancer.



Hep B United coalition of Philadelphia, led by the HBF, was featured at the 2015 National Meeting of the American Public Health Association by HBF director of Public Health **Chari Cohen** (left) and HBF senior program director **Kate Moraras**. (Nov. 2014)

TRAINING TOMORROW’S SCIENTIFIC LEADERS

LAUNCHED TO SUCCESS

Winners in the Drexel Discovery Day poster competition from Dr. Ying-Hsiu Su’s lab:

- **Adam Clemens** Honorable: Research Technician
- **Emily Cheng** 1st Place: High School category
- **Evan Trauger** 2nd Place: High school category



2014 HBF / BSBI College Summer Internship Program



2014 HBF / BSBI High School Science Enrichment Program

ACADEMIC OPPORTUNITIES

- PhD and Master’s degrees in Microbiology through a partnership with Drexel U. College of Medicine
- Master’s level research training at the PA Biotech Center through a partnership with the University of Pennsylvania
- Certificate programs in Pharmaceutical & Biotechnology Safety Training
- Apprentice Opportunities & Summer Internships in Blumberg Institute labs

ACCOLADES

HBF presents *Blumberg Prize* at annual gala to **Dr. Thomas Starzl** (center) who pioneered the first human liver transplant at the University of Pittsburgh. (April 2014)



The World Health Organization invites HBF co-founder and executive director **Joan Block** to serve on the special committee to develop their first management guidelines for hepatitis B worldwide, and **Dr. Brian McMahon**, HBF Scientific and Medical Advisory Board member, to serve as Chair of the committee. (June 2014)

Science Magazine’s “2014 Breakthrough of the Year” was the cure for hepatitis C, which was invented by **Dr. Michael Sofia**, a Blumberg professor and co-founder of OnCore Biopharma, which is dedicated to hepatitis B therapies. (Dec. 2014)

