

INNOVATION

Discoveries flowing out of University City institutions continue to change our world while contributing billions of dollars to the region's economy. It's clear why great minds from around the globe are drawn to University City.



Penn Medicine doctors use photodynamic therapy (PDT) on a patient with malignant mesothelioma. PDT aims to eradicate remaining microscopic cancer but also seems to trigger the patient's own immune system.

Photo by Sabina Pierce Photography



ROBOTIC DINOSAURS ON THE WAY

Researchers at Drexel are bringing the latest technological advancements in 3-D printing to the study of ancient life.

DRIVING WITHOUT A BLIND SPOT MAY BE CLOSER THAN IT APPEARS

The subtly curved mirror, invented by Drexel mathematics professor Dr. R. Andrew Hicks, increases drivers' field of view.

THE NEXT GENERATION OF BODY ARMOR AND BATTERIES

Drexel engineers recently presented their work with a sophisticated weave of carbon nanotubes in ACS Nano.



INTERFERON THERAPY REDUCES HIV RESERVES

A Wistar-led study provides the first clinical evidence for a means of reducing the persistent amount of HIV in patients and the ability to control HIV without continued antiretroviral therapy.



FIGHTING CHILDREN'S LYMPHOMA

A pill designed to zero-in on abnormal genes that drive specific cancers has produced encouraging early results in children with an uncommon but aggressive type of lymphoma.



Penn Medicine

GROUNDBREAKING CANCER TREATMENT

Among patients with malignant pleural mesothelioma, treatment with lung-sparing surgery in combination with photodynamic therapy yielded unusually long survival rates. Penn is the only medical center in the country using this approach.

GENETICALLY MODIFIED T CELLS OBLITERATE TUMORS*

In a cancer treatment breakthrough twenty years in the making, researchers have shown sustained remissions of up to a year among a group of advanced chronic lymphocytic leukemia patients treated with genetically engineered versions of their own T cells.



2012 PHILADELPHIA LIFE SCIENCES STARTUP OF THE YEAR

Named 2012 Philadelphia Life Sciences startup of the year, Optofluidics, Inc. is developing microfluidic and biophotonic nanomanipulation technologies for biological, material science, and pharmaceutical applications.

INFRASCAN DIAGNOSING TRAUMATIC BRAIN INJURY

Infrascan received clearance from the FDA in December to begin marketing the Infrascanner Model 1000 which diagnoses traumatic brain injury.

*Background image: Magnetic beads (yellow) are used to force the patients' modified T cells (orange) to divide before they are infused back into the patient.

Photo courtesy of the University of Pennsylvania

USciences
University of the Sciences

EARLY-STAGE BREAST CANCER STUDIES

New research from University of the Sciences' Mayes College of Healthcare Business and Policy suggests that MammaPrint—a gene expression profiling (GEP) test used to identify whether women with early-stage breast cancer would benefit from chemotherapy—is the more cost-effective and clinically-useful test than the most frequently used GEP in practice in the United States today. The findings have strong implications for health policy makers and health insurance reimbursement decisions, as well as, for health providers and patient outcomes.



HISTORIC SEA LEVEL RISE LINKED TO CLIMATE CHANGE

An international research team has shown that the rate of sea-level rise along the U.S. Atlantic coast is greater now than at any time in the past 2,000 years and that there is a consistent link between changes in global mean surface temperature and sea level.

6-9-MONTH-OLDS UNDERSTAND THE MEANING OF MANY SPOKEN WORDS

Psychologists Elika Bergelson and Daniel Swingley demonstrated that infants learned the meanings of words for foods and body parts through their daily experience with language.

PRINTING 3D BLOOD VESSEL NETWORKS OUT OF SUGAR

Researchers are hopeful that new advances in tissue engineering and regenerative medicine could one day make a replacement liver from a patient's own cells, or animal muscle tissue that could be cut into steaks without ever being inside a cow.

GREENED VACANT LOTS RESULT IN RESIDENTS FEELING SAFER

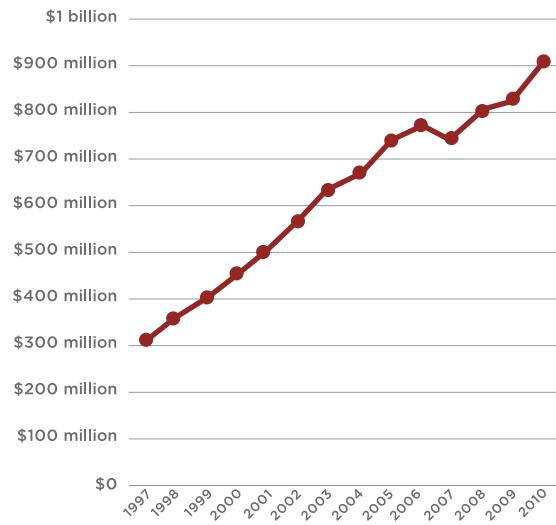
Greening vacant lots may make neighborhood residents feel safer and may be associated with reductions in certain gun crimes.

A GAME CHANGER FOR UNIVERSITY CITY

"First Round Capital is thrilled to move our headquarters into University City. We've seen a real surge in the number of companies that were founded by students at Penn and Drexel—and are looking forward to helping the next generation of entrepreneurs get their start." —**Josh Kopelman**

First Round Capital, one of the nation's most active early-stage venture capital firms, led by investor and Half.com founder Josh Kopelman, moved its headquarters to 40th and Locust streets this year, signaling a new era of entrepreneurship, investment and job-making in University City.

Academic Funding for Research and Development Continues to Climb Dramatically



University City researchers received more than 44% of all NIH funding distributed statewide.

Note: Data reflect R&D expenditures in science and engineering only at University of Pennsylvania, Drexel University and University of the Sciences in Philadelphia
Source: NSF