CytoVas
Personalized Cytomics

3624 Market Street, 5th Floor
Philadelphia, PA 19104
www.cytovas.com

Fast Facts

Founders:	Emile Mohler, Jonni Moore, Wade Rogers
Date Founded:	2010
Employees:	3
Headquarters:	Philadelphia, PA
Revenue:	N/A
University:	University of Pennsylvania
Federal Funding Agency:	Department of Defense National Institutes of Health (Heart, Lung and Blood Institute; National Cancer Institute)
Initial Research Funding:	$3M

CytoVas, LLC is an early-stage, in-vitro diagnostics company developing advanced cell- and particle-based assays for evaluating the health of the cardiovascular system. The company's first product, the Vascular Health Profile (VHP), is a simple blood test that integrates multi-factorial measures of endothelial stress and response to provide a comprehensive profile of the patient's vascular health status. The platform technology leverages the science of cytomics (the study of cellular networks by looking at individual cells) and uses well established flow cytometry methods and proprietary computational algorithms (cytometric fingerprinting) to yield the VHP.

CytoVas fills the urgent need for a cardiovascular diagnostic test that can identify asymptomatic individuals at risk for cardiovascular events, stratify patients, monitor therapeutic effectiveness and disease progression and evaluate cardiovascular disease risk during drug development. The company has partnerships with the American Heart Association and BC Biosciences.

The Story Behind the Company

CytoVas was founded by physicians and scientists at Perelman School of Medicine at the University of Pennsylvania. Emile Mohler, MD, a vascular medicine specialist, Jonni Moore, PhD, an expert in flow cytometry, and Wade Rogers, PhD, director of computational biology and research informatics at Perelman, collaborated for more than five years to develop the Vascular Health Profile that is at the core of CytoVas. Their work was supported by grants from the Department of Defense and the National Institutes of Health. They founded the company with the University of Pennsylvania through the school's UPstart Company Incubator. CytoVas holds an exclusive worldwide license to the core company technology from the University of Pennsylvania. Company president, Todd Johnson, received his B.A. and M.D. from the University of Pennsylvania.

3624 Market Street, 5th Floor
Philadelphia, PA 19104
http://graphenefrontiers.com

Fast Facts

Founders:	Alan T. Johnson, Zhengtang Luo
Date Founded:	2010
Employees:	4
Headquarters:	Philadelphia, PA
Revenue:	N/A
University:	University of Pennsylvania
Federal Funding Agency:	Department of Defense (DARPA), National Science Foundation
Initial Research Funding:	$700,000

Graphene Frontiers is a materials company that manufactures and sells graphene, which the company calls the "miracle material of the 21st century". Graphene consists of a single layer of carbon atoms and is exceptionally strong, yet flexible, transparent and highly electrically conductive, impermeable and less than 1 nanometer thick. Graphene has the potential to disrupt billion dollar markets and enable new technologies in thin, flexible displays and touchscreens, photovoltaics, corrosion protection, energy storage, organic light emitting diodes, printed electronics and more.

Graphene Frontiers implements a proprietary atmospheric pressure growth and transfer method and is working toward roll-to-roll manufacturing, which allows high throughput, lower cost production of large swaths of graphene with uniform high quality. The company's etch-free process is a quantum leap over existing technologies, giving Graphene Frontiers a competitive advantage because of its minimal environmental footprint. Graphene Frontiers will be a catalyst for the explosive growth of a multi-billion dollar market for flexible organic electronics.

The Story Behind the Company

While grapheme, because of its strength and conductivity, promises to revolutionize everything from scientific instruments to consumer electronics, its use is limited by current manufacturing techniques that can only produce small flakes of it at a time. This is where Graphene Frontiers founders A.T. "Charlie" Johnson and Zhengtang Lou come in. Johnson, a University of Pennsylvania physics professor, and Lou, a postdoctoral fellow in Johnson's lab at the time, developed a novel production technique to overcome the current limits on graphene manufacturing. Their atmospheric pressure chemical vapor deposition (CVD) production method applied a process common to the semiconductor industry to the making of graphene sheets.

The work of Drs. Johnson and Lou was supported by grants from the Department of Defense and the National Science Foundation. Their company was formed with the University of Pennsylvania through its UPstart Company Incubator. The core technology of Graphene Frontiers was licensed from the University of Pennsylvania. The company's CEO, Mike Patterson, is a graduate of University of Pennsylvania's Wharton School.

Changing the way we manage melanoma.

Executive Offices:
2301 NE Savannah Road, #528
Jensen Beach, FL 34958
www.melanovus.com

Research Facilities:
Hershey Center for Applied Research (HCAR)
1214 Research Blvd.
Hummelstown, PA 17036

Fast Facts

Founders:	Multiple Partners
Date Founded:	2012
Employees:	5
Headquarters:	Jensen Beach, FL
Revenue:	N/A
University:	Pennsylvania State University
Federal Funding Agency:	National Institutes of Health
Initial Research Funding:	$3.3M

Melanovus Oncology is a late pre-clinical stage company focused on discovering, developing and commercializing innovative new therapies and diagnostics for late stage melanoma and other skin cancers. Through research, its main function has been to discover, develop, and commercialize new and inventive ways to treat melanoma skin cancer during its late stages. The company has identified numerous ways to identify, prevent, and treat melanoma through each stage.

Melanovus Oncology, Inc. is focusing their efforts on compounds that will deter progression and development of melanoma. One Multi-Target Inhibitor (MTI) known as Nanilipolee-007 is the most complex compound developed thus far with the intentions of reaching Phase I clinical trials. Pre-clinical studies have shown that these developed compounds have slowed progression and development of advanced forms of melanoma.

The Story Behind the Company

Melanovus Oncology was founded in 2012 following almost 12 years of research at the Pennsylvania State University leading to the development of the company's portfolio. The company was formed on the basis of a series of technologies relating to the treatment of melanoma developed by Dr. Gavin P. Robertson, Penn State professor of pharmacology, pathology, dermatology and surgery and his associates.

An exclusive global license to a library of compounds and related IP was obtained from the Penn State Research Foundation. Dr. Robertson serves as Chief Scientific Officer of Melanovus Oncology and Dr. Rogerio I. Neves, professor of surgery, dermatology, pharmacology and medicine at Penn State University College of Medicine, is the company's Chief Medical Officer. Robertson and Neves' research focuses on the signaling pathways and biology identified with malignant melanoma and the treatment and the development of skin cancer, respectively. The fundamental research conducted at Penn State was supported with funding from the National Institutes of Health.

Octagen Corporation

717 Braeburn Lane
Penn Valley, PA 19072
www.ipsen.com

Fast Facts

Founders:	John S. (Pete) Lollar
Date Founded:	1997
Date Acquired:	2008
Acquired By:	Ipsen
Employees:	N/A
Headquarters:	Penn Valley, PA
Revenue:	N/A
University:	Emory University
Federal Funding Agency:	National Institutes of Health (National Heart, Lung & Blood Institute)
Initial Research Funding:	$2.9M

Octagen Corporation, an Emory University research spin out, was a biopharmaceutical company engaged in the discovery, development, and commercialization of drugs for the treatment of hemophilia and other disorders of the clotting process. Octagen's key technology, OBI-1 was purchased in 2008 by French specialty pharmaceutical company Ipsen. Ipsen subsequently sold the OBI-1 assets to U.S.-based Baxter International in early 2013. OBI-1 is currently in late phase III trials for acquired hemophilia and a Biologic License Application (BLA) filing is expected shortly.

The Story Behind the Company

OBI-1, a genetically engineered molecule with the potential to treat Hemophilia A, was discovered by Emory University professor John S. (Pete) Lollar. Lollar discovered that this recombinant porcine Factor VIII (OBI-1) possesses low cross reactivity to the Factor VIII antibodies. This was important, since about 25 percent of hemophiliacs develop antibodies or inhibitors to human factor VIII and end up rejecting the replacement Factor VIII antibodies.

Federal grants awarded to Emory University from the National Heart, Lung & Blood Institute part of the National Institutes of Health, partially funded the research leading to these inventions.

550 Pinetown Road, Suite 230
Fort Washington, PA 19034
www.rightcaresolutions.com

Fast Facts

Founders:	Kathryn Bowles, Eric Heil
Date Founded:	2011
Employees:	6
Headquarters:	Fort Washington, PA
Revenue:	N/A
University:	University of Pennsylvania
Federal Funding Agency:	Department of Defense, National Institutes of Health (National Institute of Nursing Research)
Initial Research Funding:	$840,000

RightCare Solutions, Inc. specializes in discharge planning and readmission management. RightCare implements a proprietary algorithmic discharge decision support system, D2S2, which assembles key patient data into a scoring algorithm and produces a recommendation as to whether a patient is high-risk for a 30-day readmission and should be referred to receive post-acute care services.

Currently, no comprehensive, commonly accepted discharge standards exist, and four out of five hospitals fail to assess and utilize readmission risk during hospitalization. D2S2 is implemented at patient admission, providing an unparalleled ability to influence patient care in order to gain control over readmission risk. D2S2 improves upon existing models to create a best-in-class assessment with smart capabilities that customize the system based on a hospital's specific patient population.

The Story Behind the Company

Back in 2004, a University of Pennsylvania engineering student majoring in health systems worked on his senior thesis under the direction of UPenn Nursing professor Dr. Kathy Bowles, a key opinion leader in the field of discharge planning and transitional care. At that time, they were attempting to identify the root causes of why so many patients were being discharged from the hospital without adequate post-acute care plans in place, and why vast numbers were being readmitted within 30 days. However, this research laid the groundwork for the development by Dr. Bowles, of D2S2 and for her to rejoin with her student Eric Heil (who had subsequently returned to UPenn to earn an MBA at the Wharton School) to form RightCare Solutions and commercialize her innovative research. He continues to serve as the company's president and CEO.

Dr. Bowles' research was supported by grants from the Department of Defense and the National Institutes of Health. RightCare Solutions was founded in conjunction with the University of Pennsylvania through its UPstart Company Incubator. RightCare Solutions licensed the D2S2 technology and the D2S2 trademark on an exclusive worldwide basis from the University of Pennsylvania.

The company has raised more than $2.0 million in venture funding, including investments from Domain Associates and Compass Partners.

The World's Thinnest Electro Mechanical Polymer Actuator

200 Innovation Blvd., Suite 237
State College, PA 16803
www.strategicpolymers.com

Fast Facts

Founders:	Ralph Russo, Qiming Zhang
Date Founded:	2006
Employees:	20
Headquarters:	State College, PA
Revenue:	N/A
University:	Pennsylvania State University
Federal Funding Agency:	Department of Defense (U.S. Navy)
Initial Research Funding:	$9.5M

Strategic Polymers develops cutting-edge technologies for electro mechanical actuators. It is the world's leading developer of Electro-Mechanical Polymers (EMP) and the producer of the world's thinnest high performance EMP actuators. EMP actuators vibrate and deform, are ultra-light, high strain, cost-competitive and customizable. No other actuator technology competes with so many characteristics.

Strategic Polymers is focused on designing, producing and delivering actuators to enable OEMs worldwide to deliver the most advanced multimodal user experience to their customers. The emergence of the world's thinnest EMP have enabled advances in applications including increased haptic capabilities, acoustics, advancing and animating touchscreen technologies, and technology access tool kits for developers and technology engineers.

The Story Behind the Company

Strategic Polymer Inc. was founded based on the research of Dr. Qiming Zhang, a distinguished professor in electrical engineering and material science engineering at the Pennsylvania State University. Dr. Zhang's research in the past has concentrated on electroactive polymers. Zhang and his group of researchers were responsible for the discovery and furthering development of high strain and resilient electrostrictive polymer technology essential to electro-mechanical polymer actuators. Their research in this area was supported by the Department of Defense.