

## Tech Transfer at Columbia

Columbia Technology Ventures is considered one of the leading technology transfer offices in the world, with **300+ invention disclosures** from faculty, students and staff, **40+ licenses**, **10+ start-ups**, and over **\$100 million in gross licensing revenue** each year. We have 40+ full-time staff working across the Morningside and Medical Center campuses of Columbia University.

We offer:

- An integrated interface for accessing cutting-edge research and expertise at Columbia University
- A dedicated Venture Lab to work with entrepreneurs and investors to launch start-up opportunities
- An emphasis on building healthy, long-term working relationships with industry collaborators based on our 25-year history and experience negotiating over 250 currently active licenses
- Licensing professionals with industry experience and context necessary to understand your business objectives
- In-house Patent and Licensing Group to oversee patent prosecution and streamline intellectual property licensing

## Intellectual Capital at Columbia

- Over \$780 million in research support
- 24,900 students (7,400 undergrad, 17,500 graduate & professional)
- 3,500 full-time research and teaching faculty
- 25 Nobel Prizes awarded to Columbia Faculty since 1980
- 13 Howard Hughes Medical Investigators
- World-class medical center



Contact our Office:  
[techventures@columbia.edu](mailto:techventures@columbia.edu)

[www.techventures.columbia.edu](http://www.techventures.columbia.edu)

LinkedIn Group: Columbia Technology Ventures

Facebook: Columbia Technology Ventures

Twitter: Columbia\_Tech

## Products Using Columbia Technologies



MORNINGSIDE 80 Claremont Avenue, 4th Floor, MC 9606, New York, New York 10027 T 212.854.8444 F 212.854.8463

MEDICAL CENTER 630 West 168th Street, PH 1535, New York, New York 10032 T 212.305.5198 F 212.305.5070

[techventures@columbia.edu](mailto:techventures@columbia.edu) [www.techventures.columbia.edu](http://www.techventures.columbia.edu)

## Our Mission

Columbia Technology Ventures manages Columbia University's intellectual property portfolio and serves as the University's gateway for companies seeking novel technology solutions.

Our core mission is to:

- Facilitate the translation of academic research into practical applications, for the benefit of society on a local, national and global basis
- Support research, education and teaching at Columbia by generating funding for the University and facilitating partnerships with industry where appropriate
- Educate and serve as a resource for the Columbia community on matters relating to entrepreneurship, intellectual property, and technology commercialization



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## Success Stories

### ZOLINZA™: A NOVEL TREATMENT FOR CANCER

The technology behind Zolinza™ (vorinostat), a cancer therapy, was first conceived in the 1980s in the laboratories of Ronald Breslow, PhD, at Columbia and Paul A. Marks, MD, at Memorial Sloan-Kettering Cancer Center. The first oral drug in its class to reach the market, Zolinza™ targets the cancer cells where excess amounts of the enzyme histone deacetylase (HDAC) prevent the functioning of genes that control normal cellular function. Zolinza™ is able to decrease the activity of HDAC, thus allowing for the reactivation of genes that may assist in slowing or stopping the growth of cancer cells. In 2001, Drs Breslow and Marks co-founded Aton Pharma, a privately held biopharmaceuticals company, to develop and commercialize Zolinza™ and other cancer therapeutics. In February 2004, Merck & Co.—one of the world's leading research-based pharmaceutical companies—acquired Aton as a wholly-owned subsidiary. Zolinza™ was given FDA "fast track" status and received approval in 2006, based on the results of a pivotal and supportive study. Zolinza™ was approved for the treatment of cutaneous T-cell lymphoma (CTCL), an aggressive form of non-Hodgkin's Lymphoma. The technology is now being studied for the treatment of many other types of cancer, including leukemia, multiple myeloma, advanced Hodgkin's lymphoma, and solid tumors. \* Zolinza is a registered trademark of Merck & Co., Inc., Whitehouse Station, NJ, USA

### ANTIMICROBIAL COATINGS FOR MEDICAL DEVICES

Columbia Department of Surgery's Shanta Modak and her collaborators developed a method that utilizes antimicrobial silver sulfadiazine and chlorhexidine in a polymeric matrix to help protect patients against bacterial infections that can occur with implanted medical devices. In 1987, Columbia licensed this technology to Daltex Medical Sciences, which sublicensed it to Arrow International, which has since sold more than 400,000 central venous catheters that employ Dr. Modak's invention.

### MPEG - 2

This groundbreaking research, conducted by a team that included Dimitris Anastassiou, Columbia University professor of electrical engineering, allows the transmission of highquality video and audio over limited bandwidth. Columbia was the only academic institution involved in the development of the MPEG-2 algorithm. MPEG-2, which uses mathematical manipulations to compress and send high-quality video and audio signals over limited bandwidth channels and decompress them for display, appears in all current forms of digital transmission and has become the international television-coding standard. The success of getting this technology from laboratory to marketplace was the result of the University's collaboration with key industry partners including Fujitsu, General Instrument, and Mitsubishi Electric. The technology, which represents a market of billions of dollars, is currently being used in High Definition TV, DVD disks, Video on Demand, and personal computing. It will likely be used in the PCs and TVs of the future—products that will boast larger screens that depict tremendous detail.

### SHOULDER PROSTHESIS

The Bigliani/Flatow Complete Shoulder Solution was developed by Columbia's internationally-recognized leader in shoulder surgery, Dr. Louis Bigliani, Chief of the Center for Shoulder, Elbow and Sports Medicine at Columbia University, and Dr. Evan Flatow, a former Columbia professor in conjunction with Zimmer, Inc. The technology was developed in 2000 and has since been manufactured by Zimmer, a leader in the field of orthopaedic implants. The shoulder prosthesis technology allows for the restoration of shoulder joint function for people who suffer from pain or disability from osteoarthritis, rheumatoid arthritis, traumatic arthritis, and certain breaks in the shoulder bones. The Bigliani/Flatow Shoulder Solution continues to lead sales for the Zimmer Extremities business and holds a strong position in the global shoulder implant market. The technology differs from others in the field as the surface and the head design of the shoulder provide full joint mobility and stability throughout the shoulder's range of motion, and distributes natural stresses more broadly, which reduces uneven pressure and associated wear. With this shoulder prosthesis technology, the natural mobility and balance of the joint are restored.