

Table 4 Top 15 TTOs in terms of life science startup activity in 2013

Institute	Startups
University of California System	55
University of Pennsylvania	22
University of Utah	15
University of Washington/Wash. Res. Fdn.	9
University of Minnesota	9
University of Florida	7
Columbia University	6
Duke University	6
New York University	5
Wake Forest University	4
Northwestern University	3
Mount Sinai School of Medicine	2
Princeton University	1
University of Massachusetts	1
University of Rochester	0

Source: *Nature Biotechnology*/AUTM

Norma Kenyon puts it, to actively seeking the best partners for a university's research assets, is smart business. Greasing the path for faculty disclosures and toward commercialization is a win-win. The efforts already in place, plus the growing interest of academia in entrepreneurship across the United States, seems certain to spur continued licensing, startup and patenting activity. Historically lesser-known schools, such as USD, will see the quickest rate of growth, as it is harder to move the needle at established, successful schools such as Penn.

Though it will not be for lack of trying. On a cloudy Halloween afternoon, the university held a "Celebrating Innovation at Penn" day on the grounds of the Pennovation Center, as part of a ceremonial groundbreaking. Buses carried students and faculty over the Schuylkill River and through the security gate to the South Bank campus. Under canopies, Penn faculty and researchers gave mini-presentations on their work, followed by a forum discussion titled "From Idea to Innovation: The Impactful University." The talk was a one-on-one chat between Penn president Amy Gutman and the writer Walter Isaacson, who has written biographies on innovative thinkers Benjamin Franklin and Steve Jobs, among others.

The one-on-one lasted an hour. When it ended, Penn's chairman joined Gutman on stage, and workers scrambled to open flaps at the back of the tent. A founder of Penn startup KMel Robotics joined the group and dispensed controllers, and for a handful of seconds, four small drones hovered in the air at the front of the room. The crowd was encouraged to stand, and Penn's school anthem came over the speakers. Beyond the tent, sunlight suddenly broke

Box 4 Our ranking

Using data from >150 US universities in AUTM's STATT database (which is not broken down into sectors, such as life sciences, IT and energy), *Nature Biotechnology* selected the top 20 gross licensing revenue earners over the 2009–2013 period. We then contacted each school and asked for data points related to just the life sciences for 2013; boutique patent firm IP Checkups provided us with biotech patents awarded to these universities when listed as first assignee. We also pulled NIH funding information. This information can be found in **Tables 1–5**. Schools are ranked against each other according to their total life science TTO performance, in which each metric category (e.g., license income, licenses/options executed and patents awarded) was assigned an average value, and the schools ranked above or below it. Adding those scores provided the final ranking.

All schools represented are performing tech transfer at a high level—these rankings merely rank the schools against each other for life science tech transfer production, not against the broader world of US universities. Readers should note that MIT, Stanford, the University of Texas system, California Institute of Technology and the University of Wisconsin at Madison are in our original top 20, but because they could not break out information attributed to life sciences, they are not shown in **Tables 1–5**. Individual TTO performance across research disciplines for these 20 schools and a few notables, including USD, can be found in **Supplementary Data**.

Table 5 Top 15 TTOs in terms of NIH funding/no. of awards in 2013

Institute	NIH funding (\$)	No. of awards
University of California System	1,741,730,393	4,239
University of Washington/Wash. Res. Fdn.	454,274,167	932
University of Pennsylvania	451,194,908	1,081
Duke University	350,249,092	753
Columbia University	348,146,222	860
University of Minnesota	264,302,067	608
Northwestern University	233,095,315	593
New York University	220,178,414	612
Mount Sinai School of Medicine	208,435,128	458
University of Massachusetts	158,659,306	392
University of Rochester	146,849,347	382
University of Utah	140,494,332	381
University of Florida	127,141,750	326
Wake Forest University	101,760,292	242
Princeton University	39,609,228	117

Source: *Nature Biotechnology*/AUTM

through the clouds, shot down and then disappeared, as if on a timer. Two of the drones veered away, zipped out the tent opening and headed toward the top of the adjacent building. Firework fountains blazed to life on the lawn, and when the drones reached their destination, they triggered the release of a huge banner—Pennovation

Center Coming in 2016—which dropped down and flopped against the brick.

Confetti cannons fired.

Everyone clapped.

Note: Any Supplementary Information and Source Data files are available in the online version of the paper ([doi:10.1038/nbt.3085](https://doi.org/10.1038/nbt.3085)).

First Rounders Podcast: Daphne Zohar

Daphne Zohar is the founder, CEO and managing partner at PureTech, a venture creation company with a new approach to building biotechs, and she sits on the board of several life science firms. Her podcast conversation with *Nature Biotechnology* covers starting her first company (in high school), the usefulness of Bioentrepreneur courses, and women in venture capital. (<http://www.nature.com/nbt/podcast/index.html>)

