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Small Times Magazine

Top 10 universities by category

The Small Times university survey included 26 questions about funding, facilities, patenting, company formation, collaborations with industry, research, publishing, and micro and nano-specific courses and degree programs. It also gave respondents an opportunity to state which of their peer institutions they thought were leaders in micro and nanotech research and commercialization.

Here are the results, based on responses from 50 universities. Data from the responses were divided into categories and analyzed to determine the top 10 universities for each category. Categories are research, education, facilities, industrial outreach and commercialization. The peer rankings covered micro research, nano research, micro commercialization and nano commercialization.

Note that some universities made the peer rankings but do not appear elsewhere. Those universities did not respond to the survey or provided incomplete responses.

RESEARCH

1	University of Pennsylvania
2	University of Pittsburgh
3	Case Western Reserve
4	Cornell University
5	University of Virginia
6	Texas A&M
7	Rice University
8	University at Albany-SUNY
9	University of Minnesota
10	University of Michigan

EDUCATION

1	University at Albany-SUNY
2	University of Michigan
3	Louisiana Tech University
4	University of California at Berkeley
5	University of Pennsylvania
6	University of Maryland
7	Rice University
8	Rutgers University
9	University of New Mexico
10	Northwestern University

INDUSTRIAL OUTREACH

1	University at Albany-SUNY
2	University of Minnesota
3	Purdue University
4	University of North Carolina
5	Rutgers University
6	University of Central Florida
7	University of Michigan
8	North Carolina State University
9	Northwestern University
10	Cornell University

COMMERCIALIZATION

1	Cornell University
2	Harvard University
3	University of Virginia, (tie)
3	Rice University, (tie)
5	University of Michigan
6	Ohio State University
7	University of Illinois at Urbana-Champaign
8	Northwestern University
9	Massachusetts Institute of Technology
10	University of Pennsylvania

PEER MICRO RESEARCH

1	University of California at Berkeley
2	Massachusetts Institute of Technology

PEER NANO COMMERCIALIZATION

1	Massachusetts Institute of Technology
2	University of California at Berkeley

MARKET NEWS

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NASDAQ	2082.010	+ 9.53
S&P	1226.280	+ 2.59

Brewer

MACHINES

Science

Leading software for nanoscale analysis

SIMAGIS Nano

• Nanotube Characterization

• 3D Particle Analysis

• Dispersion and Composites

area 1,145.0 504,943.6
perimeter 115.5 3,388.
projection 42.8 934.3
pores width 1,564 0.98



Automated Solutions for AFM, SEM, TEM Microscopy

1	Massachusetts Institute of Technology	1	Massachusetts Institute of Technology
2	Massachusetts Institute of Technology	2	University of California at Berkeley
3	University of Michigan	3	Northwestern University
4	Stanford University	4	Stanford University
5	Cornell University	5	Rice University
6	Georgia Institute of Technology	6	Cornell University
7	University of California at Los Angeles	7	Harvard University
8	University of Texas at Austin	8	University of Michigan
9	University of Illinois at Urbana-Champaign	9	California Institute of Technology
10	California Institute of Technology	10	University of Texas at Austin

FACILITIES

1	University at Albany-SUNY
2	Cornell University
3	Ohio State University
4	University of North Carolina
5	Northwestern University
6	Arizona State University
7	University of Michigan
8	Rice University
9	University of Illinois at Urbana-Champaign
10	Purdue University

PEER NANO RESEARCH

1	Massachusetts Institute of Technology
2	Cornell University
3	University of California at Berkeley
4	Northwestern University
5	Stanford University
6	Rice University
7	Harvard University
8	University of California at Santa Barbara
9	California Institute of Technology
10	University of Illinois at Urbana-Champaign

PEER MICRO COMMERCIALIZATION

1	Massachusetts Institute of Technology
2	University of California at Berkeley
3	Stanford University
4	University of Michigan
5	Cornell University
6	California Institute of Technology
7	Georgia Institute of Technology
8	Carnegie Mellon University
9	University of Texas at Austin
10	University of Illinois at Urbana-Champaign



Cornell University

Cornell University	
Research	★★★★
Facilities	★★★★☆
Industry outreach	★
Commercialization	★★★★★
Total	13.5

PEER RANKINGS	
<i>Nano research</i>	★★★★☆
<i>Micro research</i>	★★★
<i>Nano commercialization</i>	★★★
<i>Micro commercialization</i>	★★★

Faculty and students at Cornell University were active in nanotechnology long before it became a buzzword. The university was among the first to customize facilities for the exacting challenges of working at the micron and nanoscale. Cornell's foresight from more than a decade ago has positioned it to compete with the best in nanotechnology today.

Cornell maintains a diverse stable of research facilities that receive support from federal and state government agencies as well as some private funding. With an annual budget of more than \$10 million in 2005, the Cornell Center for Materials Research has pulled together an interdisciplinary team of scientists and engineers in well-equipped shared facilities. The Nanobiotechnology Center brings in life scientists along with physical scientists and engineers to study biological systems at the subcellular and molecular level. The center has inspired researchers to develop novel micro and nanofabricated devices.

The Center for Nanoscale Systems in Information Technologies focuses on the electronic, photonic and magnetic properties of nanomaterials. Its goal is to provide a new generation of products for computational, sensing, information storage and communications systems. Cornell is also one of only three universities worldwide selected by the philanthropic Kavli Institute to become a nanoscience research center.

Cornell has been the most successful of the universities in its commercialization efforts, in part because the campus offers facilities for producing as well as studying at the micro and nanoscale. The Cornell NanoScale Science and Technology Facility makes its nanofabrication tools and processes and trained staff available to

industry as well as university researchers. Almost half of its funding comes from user fees.

Students and faculty also collaborate with corporations like IBM, Evident Technologies and Hitachi on projects as diverse as nanotransistors, quantum dots and memory devices. They're active with various national labs and institutes as well.

The university stands out for its micro and nanotech patenting and creation of companies. The Cornell Center for Technology, Enterprise and Commercialization was consolidated in 2004 to support startups such as Illuminaria, whose portable biosensing technology was developed in the engineering department.