
Frank Hawkins Kenan
Institute of Private Enterprise
BOT Impact Committee
September, 2013
UNC
FRANK HAWKINS KENAN
INSTITUTE OF
PRIVATE ENTERPRISE

The importance of research universities to our economy is increasingly clear

America is driven by innovation

- Corporate research labs that drove American industrial leadership in the twentieth century have largely been dismantled
- Today, our Nation's primary source of new knowledge and skilled pioneers is our research universities
  - Silicon Valley, HWY 128, San Diego, Austin, NYC, RTP, Phila/Baltimore
- Federal R&D budget is the fuel for innovation in the USA
  - 35% of the federal R&D budget goes to 25 universities
- Research output consolidating; 24 universities share 42% of overall US research output. News of the Week, *Science* 330 (2010) 1032
- "Startups aren't everything when it comes to job growth. They're the only thing." "The Importance of Startups in Job Creation and Job Destruction" Kauffman Foundation, July 2010
- "Startups are a wonderful thing, but they cannot by themselves increase tech employment…[we need to} build factories, and hire people by the thousands." Andy Grove: How America Can Create Jobs
- Key regions in the USA, and other countries, are increasingly investing in their own competitiveness, especially in their research universities

Source: Research Universities and the Future of America, National Academies, June 2012

Convergence

- National Academies study

The Third Revolution:

The Convergence of the Life Sciences
Physical Sciences and Engineering

Extend to social sciences, humanities and performing arts

NATIONAL ACADEMY OF SCIENCES

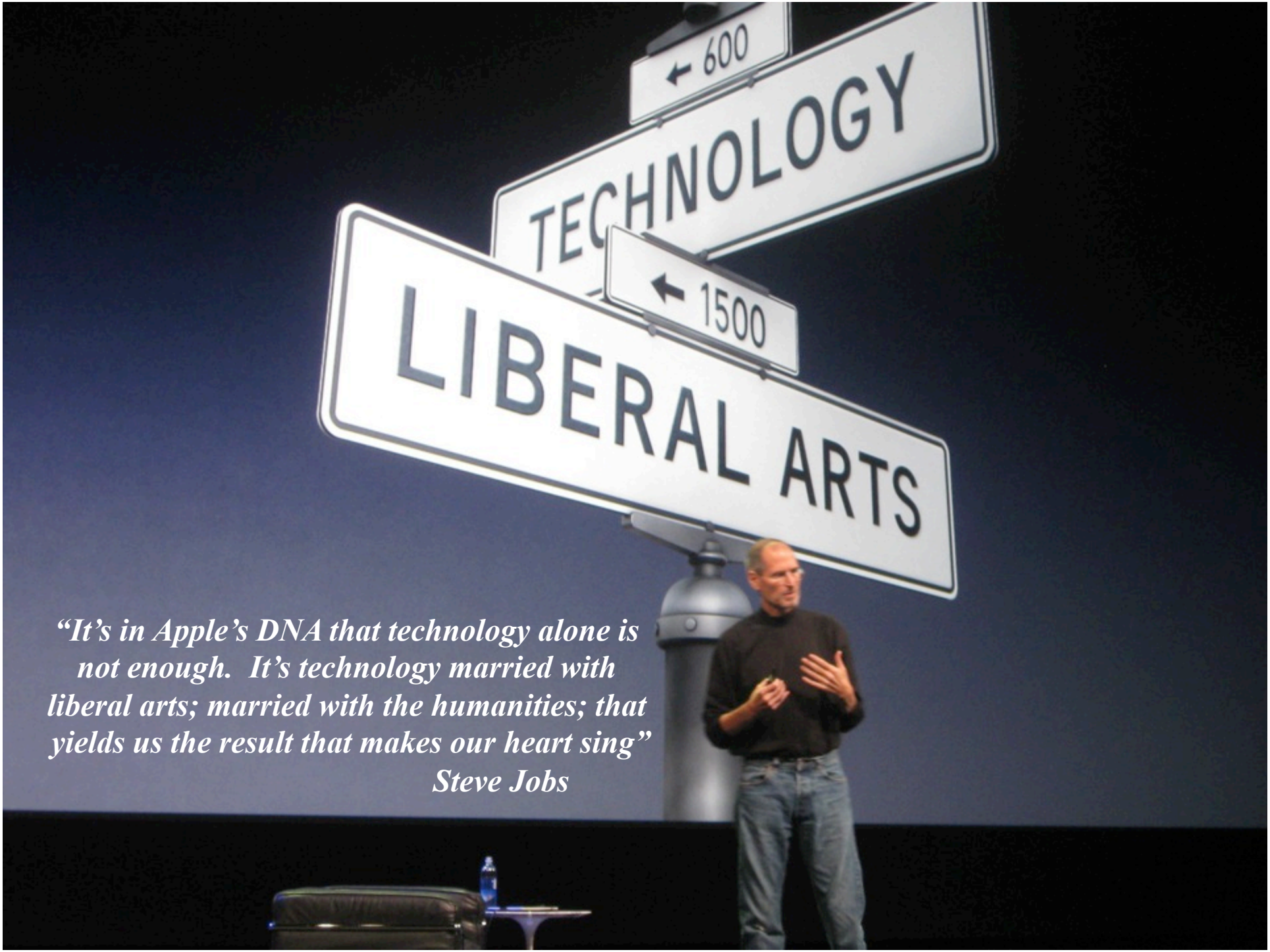
NATIONAL ACADEMY OF ENGINEERING

INSTITUTE OF MEDICINE
OF THE NATIONAL ACADEMIES

AMERICAN ACADEMY OF ARTS & SCIENCES

- The coming together of different fields of study through collaboration and the integration of approaches that were originally viewed as distinct and potentially contradictory.

- "…convergence is a blueprint for innovation…"



"It's in Apple's DNA that technology alone is not enough. It's technology married with liberal arts; married with the humanities; that yields us the result that makes our heart sing"

Steve Jobs

A Call to Action for the Kenan Institute of Private Enterprise

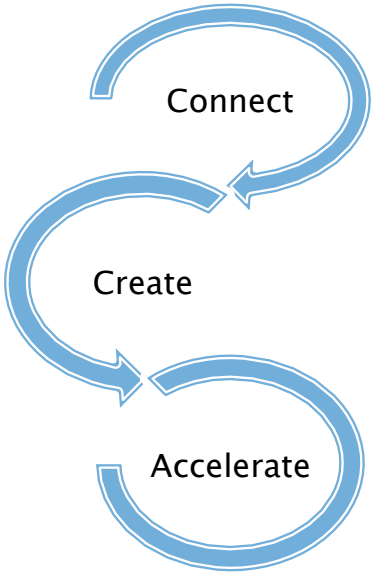
Mission

We are a partner for innovative entrepreneurship

Vision

To elevate North Carolina as a global leader in innovation and entrepreneurship

Priorities



Values

- Diversity
- Innovation
- Collaboration

2016 Objectives

- Increase UNC-CH Entrepreneurship
- Expand Multi-University Research Translation
- Leverage Intellectual Capital for NC Economic Development

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Historical Perspective

NSF Science & Technology Center
NSF STC
Environmentally Responsible Solvents and Processes

University of North Carolina at Chapel Hill
North Carolina State University
North Carolina A&T State University
The University of Texas at Austin

Joseph M. DeSimone
William R. Kenan, Jr. Distinguished Professor of Chemistry and Chemical Engineering
Director of NSF STC

August 27, 2003

Memo

To: Chancellor James Moeser
Provost Robert Shelton
Vice Chancellor Tony Waldrop
Associate Vice Chancellor Mark Crowell
Chair of the Faculty Judith Wegner

From: Joseph M. DeSimone

Re: White Paper from Faculty Entrepreneurs at UNC-Chapel Hill

Attached please find a statement on technology transfer collectively authored by a group of entrepreneurially active faculty members. We are presenting it to you in order to improve the working environment between all stakeholders involved in economic development and technology transfer here at UNC-Chapel Hill. We would like to see the University establish a Faculty Committee for Economic Development and Technology Transfer to unlock the value and the impact of Carolina's talented and experienced faculty in these critically important areas.

Faculty members and their students are keenly interested in seeing the successful commercialization of their inventions. Historically, however, the faculty has not played a key role in developing the policies and procedures associated with technology transfer and economic development here at UNC-Chapel Hill. Given the successes of the faculty over the last ten years in commercializing their inventions, we believe that it is now appropriate to harvest their collective learnings in this regard.

We would be happy to meet with anyone as necessary to move this agenda forward. We look forward to hearing your thoughts and working with you to make Carolina even better than it already is in achieving its public service and educational missions. The present economic environment presents a great opportunity for the University to demonstrate its relevance in enhancing the State's reputation as a leading contributor to economic development, especially as it relates to the creation of jobs in the high technology commercial world.

Enhancement of the Environment, Culture and Effectiveness of Economic Development and Technology Transfer at the University of North Carolina at Chapel Hill
A Perspective from Entrepreneurially Active Faculty Members

To:

Chancellor James Moeser
Provost Robert Shelton
Vice Chancellor Tony Waldrop
Associate Vice Chancellor Mark Crowell
Chair of the Faculty Judith Wegner

August 27, 2003

Authored by:

Joseph M. DeSimone
Professor of Chemistry
Co-Founder of Micell Technologies and Biostent

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Professor of Medicine

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Professor of Pharmaceutical Sciences
Co-Founder of Cirrus and Oriel Therapeutics

Ryszard Kole
Professor of Pharmacology
Co-Founder of Ercole Biotech

Terry Magnuson
Professor of Genetics
Co-Founder of Karyogen

Richard Mailman
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Co-Founder of DarPharma

Jude Samulski
Professor of Pharmacology
Co-Founder of VectorRx

Richard Superfine
Professor of Physics & Astronomy
Co-Founder of nanoManipulator, Inc.

Russell M. Taylor
Research Professor Computer Science
Co-founder of nanoManipulator Inc.

Dhiren Thakker
Professor of Pharmaceutical Sciences
Co-Founder of Qualyst (ADMETech)

Holden Thorp
Professor of Chemistry
Co-Founder of Xanthon now Clinical Microsensors, a Motorola Company

Otto Zhou
Professor of Physics & Astronomy
Co-Founder of Applied Nanotechnologies

Historical Perspective

Summary of Suggested Improvements to Operational Procedures and Policies
(Without priority order)

- Improve direct communications between faculty and OTD.
- Decrease significantly the time that it takes to complete a licensing agreement with the University.
- Establish "boiler plate" agreements and scenarios (within several types of contexts) for the launching of new companies in order to streamline and accelerate deal flow and the prospects for the rapid commercialization of university technology.
- Enhance partnerships between the research active faculty, OTD and the Kenan-Flagler Business School, perhaps by leveraging operations through the creation of (formal) operational relationships of OTD with relevant campus expertise in the Schools of Law, Business and Medicine and the College of Arts and Sciences.
- Extract the tremendous educational value inherent in the technology transfer process and to pass it on to students and other faculty at the University
- Establish "Best Practices" for managing conflicts of interest on campus. Such "Best Practices" will go a long way towards helping non-entrepreneurially active faculty members, who often populate Conflicts of Interest Committees, and others, especially students, understand the premise that the late Chancellor Hooker espoused when he stated (paraphrasing) that he wanted his faculty to create as many conflicts of interest as possible and he wanted the university to manage them accordingly. Currently, because of the way processes are handled on this campus to deal with conflicts of interest, many have the attitude that creating a conflict of interest is an unfortunate circumstance that is wrong and therefore needs special clearance for it to occur/remain.
- Acknowledgments and approvals need to be made and communicated in writing to all relevant parties when Reports of Invention (ROIs), Conflicts of Interest Reports, and Intents to Consult declarations are submitted by the faculty, especially those documents associated with inventions that are part of consulting agreements and hence are not the property of the University.
- Institute a standard "Pre-invention Agreement" policy that clearly states the rights of inventors and the university in terms of patent rights and future licensing incomes. This agreement should be signed prior to beginning employment with the university and should be complemented with an education for students and faculty which describes the differences between authorship and inventorship.
- Establish "Best Practices" for handling equity received as part of licensing agreements to make sure that inventors are protected, among other things, from paying taxes before they profit from their stock.
- Establish a culture of continuous improvement for all aspects of technology transfer and economic development initiatives which solicits feedback from all stakeholders.
- Establish laboratory incubator space close to, or on, the campus.
- Establish a mechanism to avail start-up companies with seed money.
- Increase the resources available for the filing of US patents, especially in an effort to reduce the need for the University to exchange licensing rights to third parties in exchange for simple filing fees which diminishes the value and options for licensing technology from the University.
- Start marketing University technology to the outside world, especially advances which are more appropriate for licensing to pre-existing companies rather than for the establishment of new start-up companies.
- Establish helpful guidelines for faculty entrepreneurs which address:
    - The blending of the university role to include entrepreneurship (e-mail, computer systems, phone systems, use of files and other office protocols, etc)
    - Use of university lab space and equipment
    - The assumption by faculty of active roles in new companies without creating tremendous strife between the faculty member, the university and the investors
- Accommodate faculty member's desires, or lack thereof, to stay involved with their inventions/technology going forward.
- Do not penalize faculty members for helping with the process of transfer of technology to the external world. For example, contrary to the licensing of a faculty member's invention to an outside company where the interests of the university and the faculty member are aligned, the licensing of the faculty member's invention to a UNC start-up puts the two parties in adversarial positions.
- Establish "a meaningful yet invisible to outsiders" licensing partnership between UNC-Chapel Hill and NC State that streamlines and enhances the transfer of joint and complementary technology to the outside world, especially prior to the launching of the joint Department of Biomedical Engineering between UNC-Chapel Hill and NC State

Carolina Express License Agreement

Technology Transfer Tactics™

The monthly advisor on best practices in technology transfer

In This Issue

Don't panic, but take steps to prepare for *Bilski* decision

The U.S. Supreme Court's much-anticipated ruling in the *Bilski* case will likely alter the landscape for business method patents and send shockwaves through the tech transfer community. Though no one can predict for certain the outcome, many observers believe the days of business method patents are numbered. Some experts advise TTOs to prepare now and determine their patent portfolios' exposure to Bilski-related turmoil, decide how vigorously they want to defend affected patents, if at all, and explore alternatives for protecting relevant IP in other ways.

The case [*In re Bilski*, 545 F.3d 943 (Fed. Cir. 2008) (en banc), cert. granted, 129 S.Ct. 2735 (2009)] will address what types of processes should be eligible for patent protection under 35 U.S.C. § 101. The specific claim, widely expected to stand as a precedent for other business method patents like it, involves a method of hedging risk in the field of commodities trading. In a split decision, the lower court confirmed the U.S. Patent and Trademark Office's ruling and said the appropriate measure of patent eligi-

continued on page 4

UNC introduces standardized 'express' start-up license

Forming a start-up at the University of North Carolina (UNC) at Chapel Hill may become easier following the introduction of a standard licensing arrangement that the university is promoting as its "best deal." The Carolina express license, which UNC has published on its web site (http://research.unc.edu/otd/documents/CAROLINAEXPRESSLICENSEAGREEMENT.pdf) along with a user guide (http://research.unc.edu/otd/documents/CarolinaExpressLicenseUserGuide.pdf), offers the same terms to all UNC start-ups. The license is optional, but its use is strongly encouraged by the Office of Technology Development (OTD).

"We believe we've come up with a set of terms that will work for all UNC start-up licenses that is fair and reasonable to all stakeholders and can be put in place without negotiation," says **Cathy Innes**, director of the OTD. "I don't know of any other universities that have tried this approach."

continued on page 8

Technology Transfer Tactics ▶ Vol. 4, No. 1 (pp 1-16) January 2010 ▶ www.technologytransfertactics.com

FACILITATING THE COMMERCIALIZATION OF UNIVERSITY INNOVATION: THE CAROLINA EXPRESS LICENSE AGREEMENT

April 2010

Ewing Marion KAUFFMAN Foundation

Concierge Entrepreneurship Service

Frank Hawkins Kenan Institute the 'Front Door' for UNC Entrepreneurs

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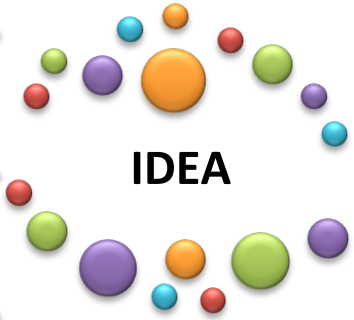
University Commercialization

- Research
- Pre-Disclosure
- Invention Disclosure
- Assessment
- Protection
- Marketing to Find or Form a Licensee
- Licensing
- Commercialization
- Revenue
- Reinvest in Research & Education

Concierge Service for Entrepreneurs



- Patent
- University Spinout
- Copyright

TO

MARKET

- New firm
- Existing firm

- Resource Navigation
- Patent Landscape
- Market Research
- Business Advising
- Team Formation
- Conflict of Interest Advising
- Creation of Resources: Assist in Identifying Capital

UNC RESEARCH
Office of Technology Development

Carolina KickStart

launch CHAPEL HILL

CUBE

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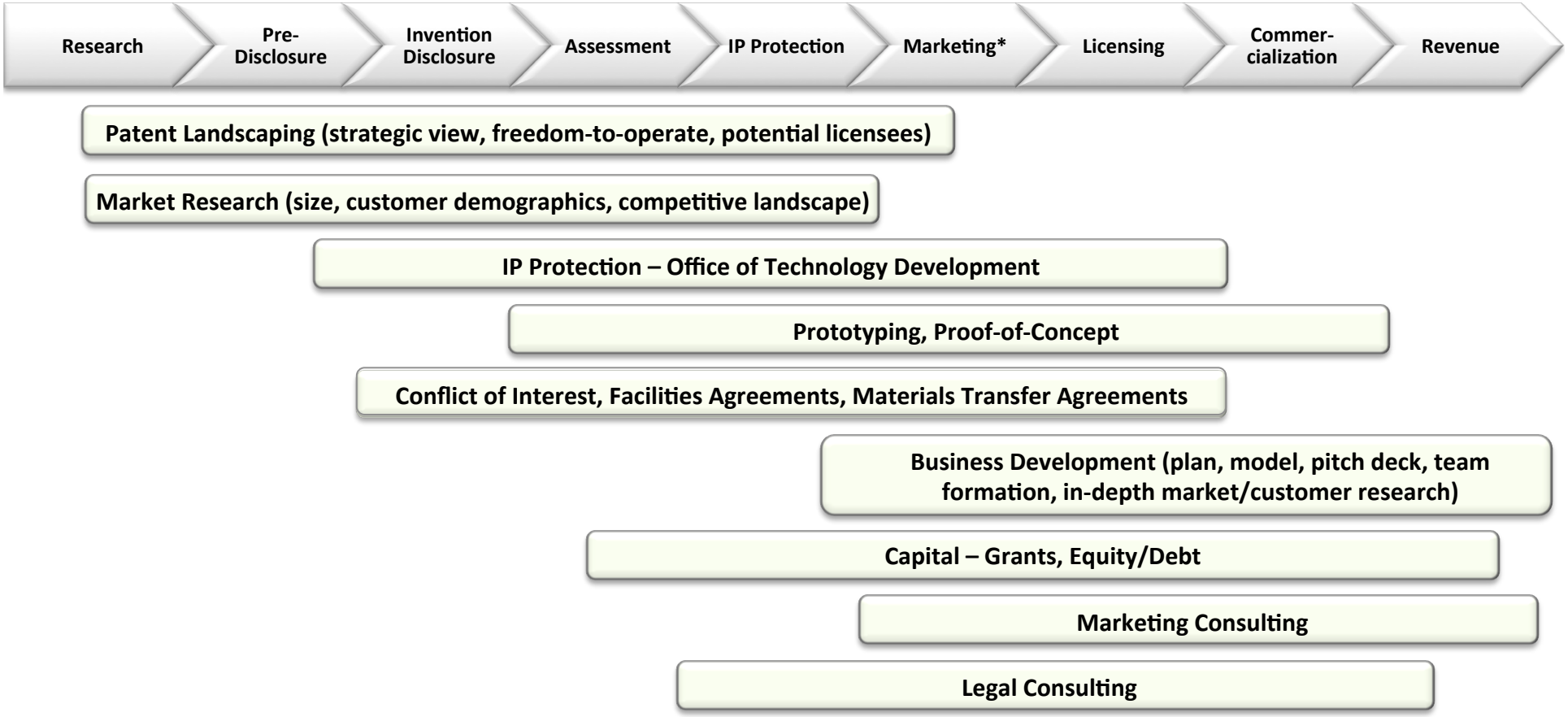
Concierge Service for Entrepreneurs



*To find or form a licensee: existing business or form startup

UNC RESEARCH
Office of Technology Development

Carolina KickStart

launch CHAPEL HILL

CUBE CAMPUS Y

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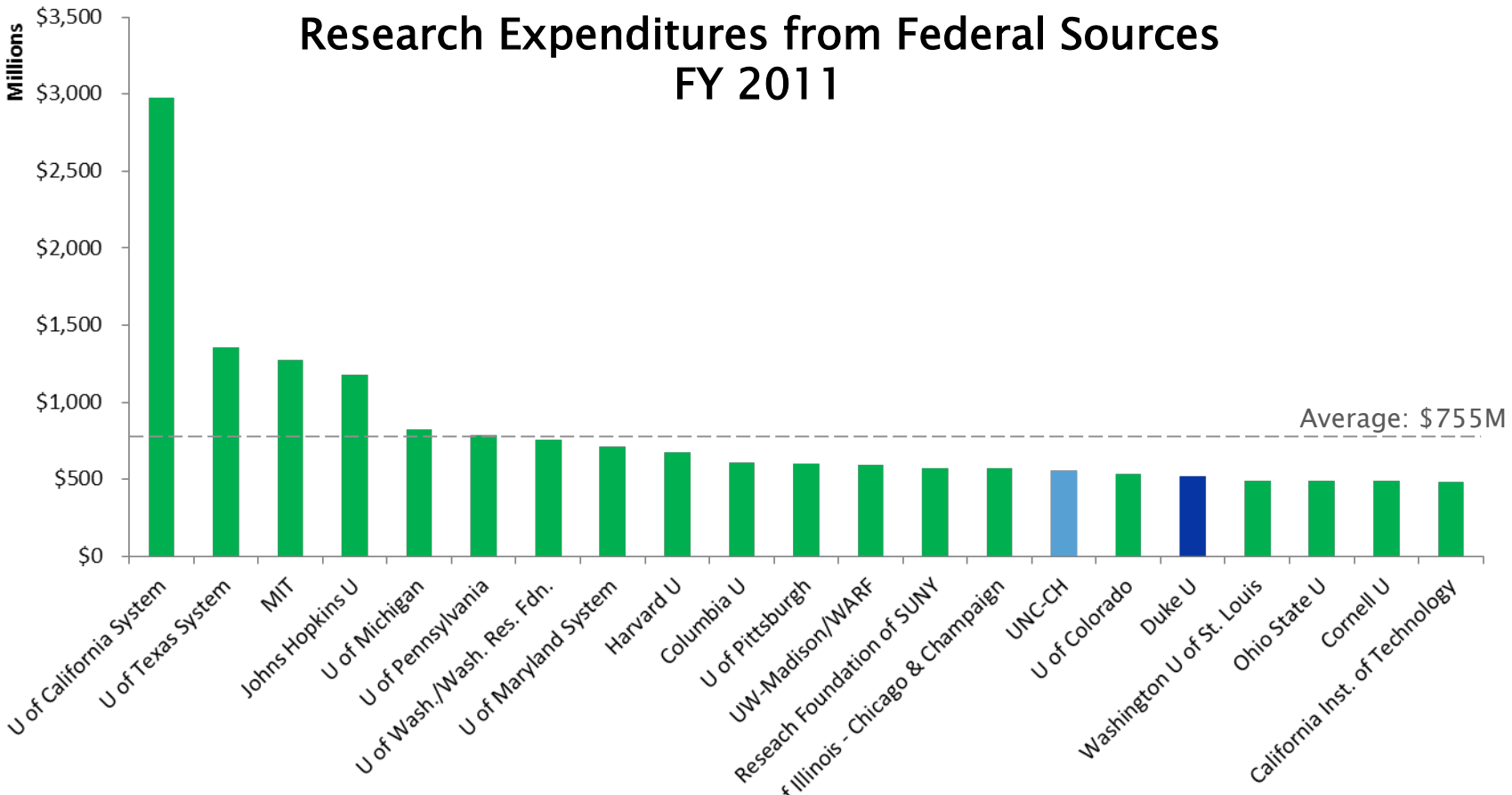
Eventually Convergence of Concierge Service with Eastern NC, UNC system schools, Duke, RTP, RTF…

Identify and Champion Strategic Needs

- Commercialization Task Force
- COI
- Strategic Planning
  - Department of Applied Physical Sciences
  - Department of Biomedical Engineering
- Infuse entrepreneurship into additional areas across campus
  - Sport
  - Public Health

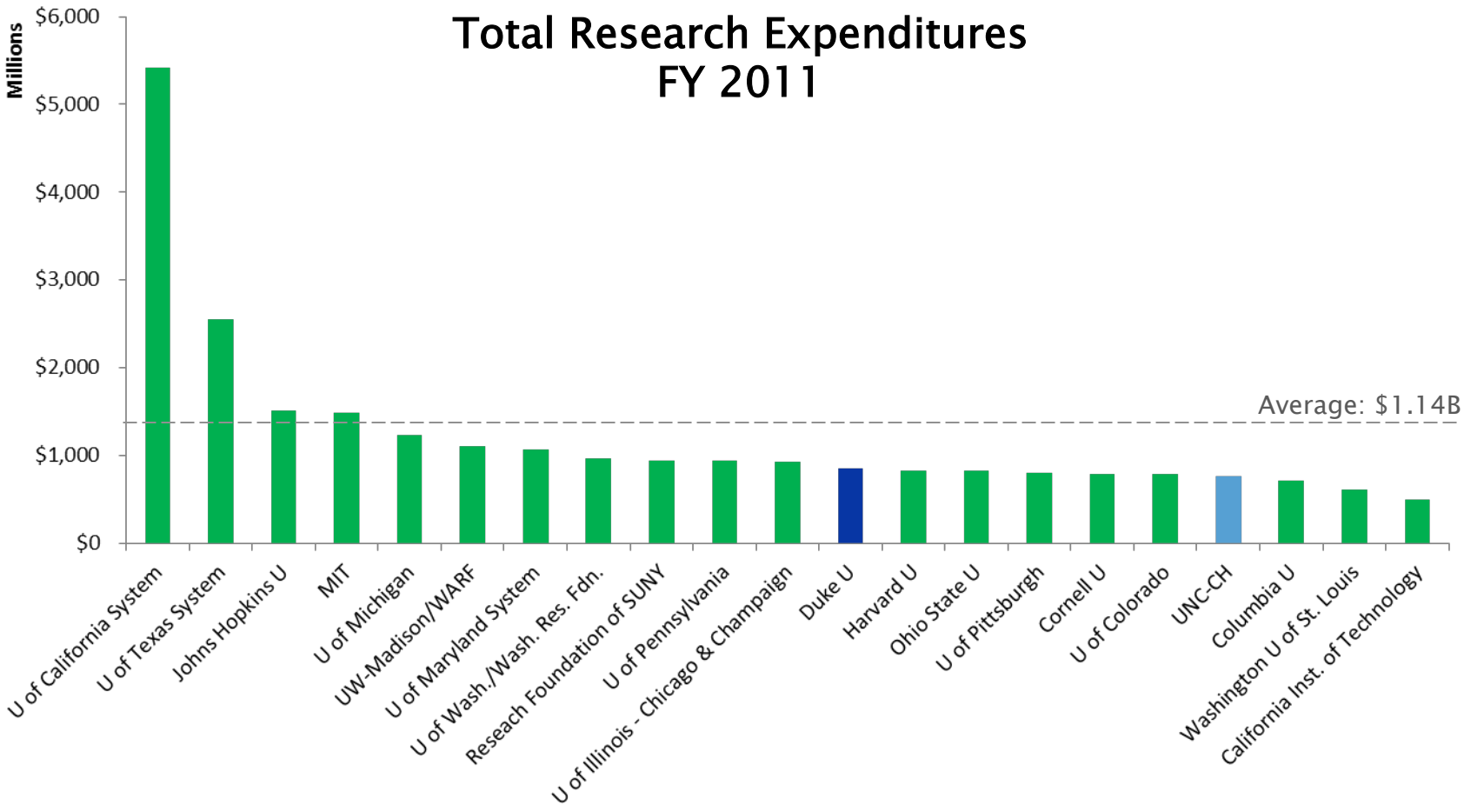
Appendix

UNC-CH's research expenditures from federal sources is approx. $554M



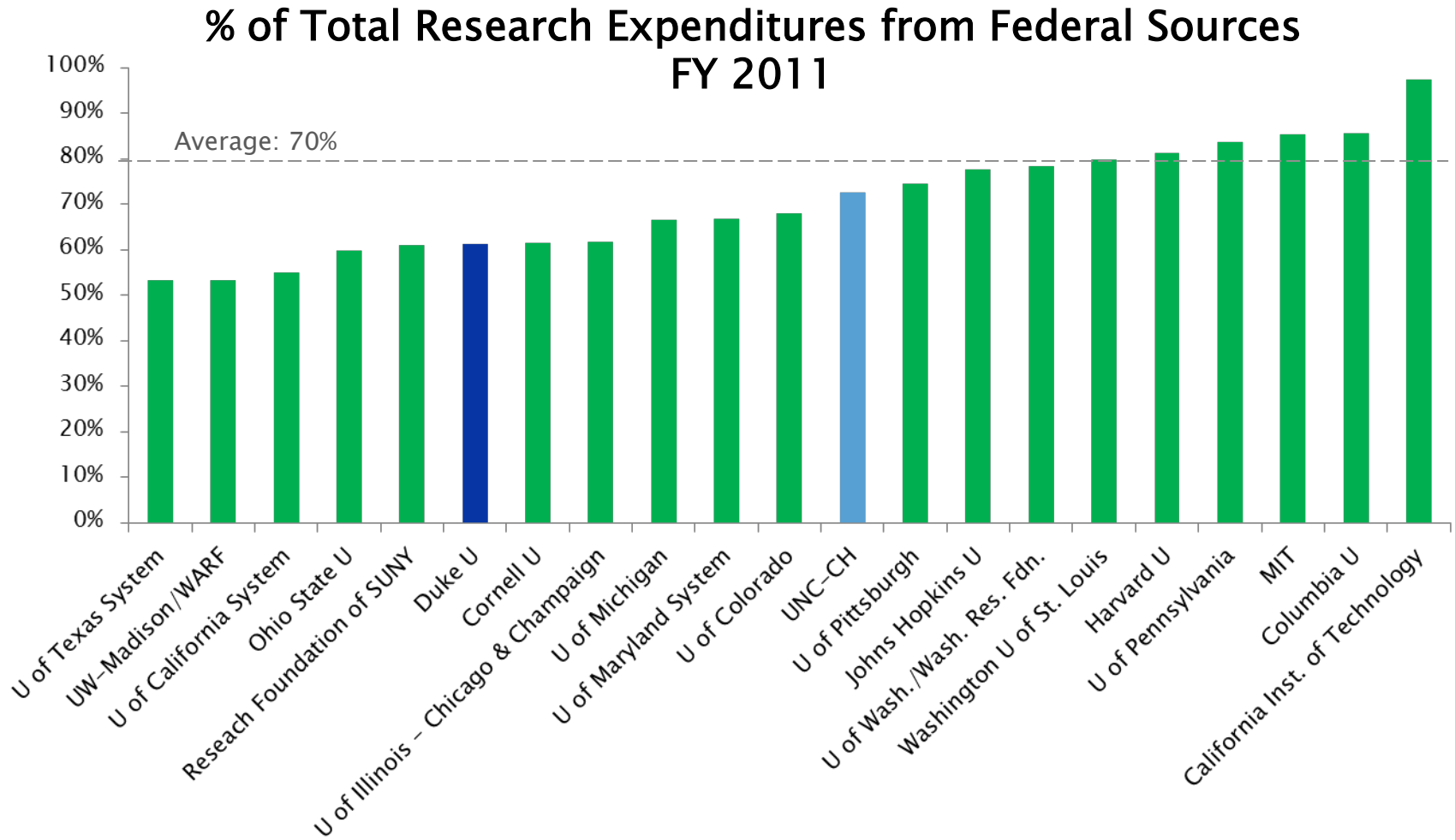
Source: AUTM FY 2011

UNC-CH total research expenditures is approx. $762 M



Source: AUTM FY 2011

The percent of UNC-CH's research expenditures from federal sources is 73%



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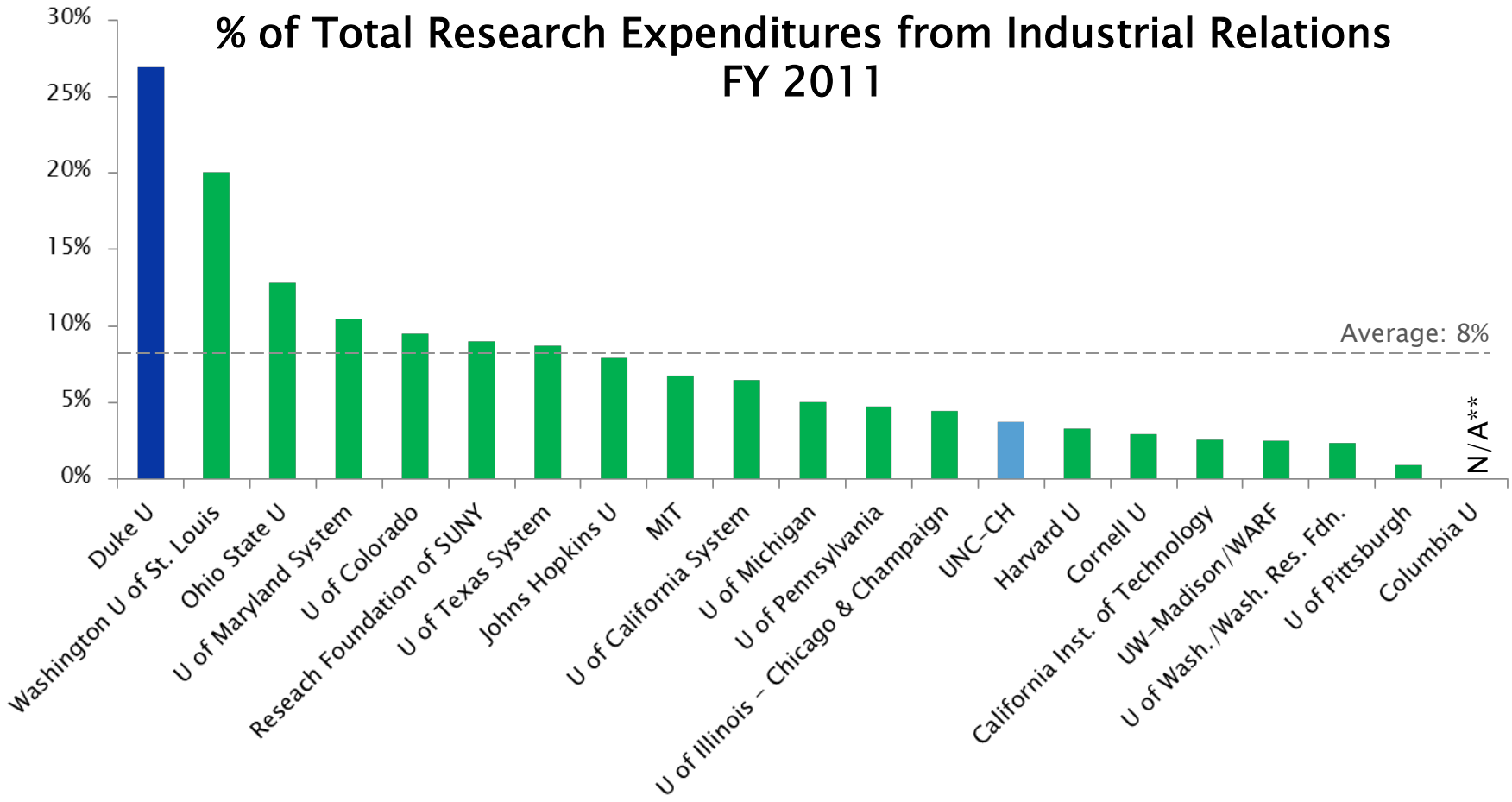
Source: AUTM (Association of University Technology Managers) FY 2011

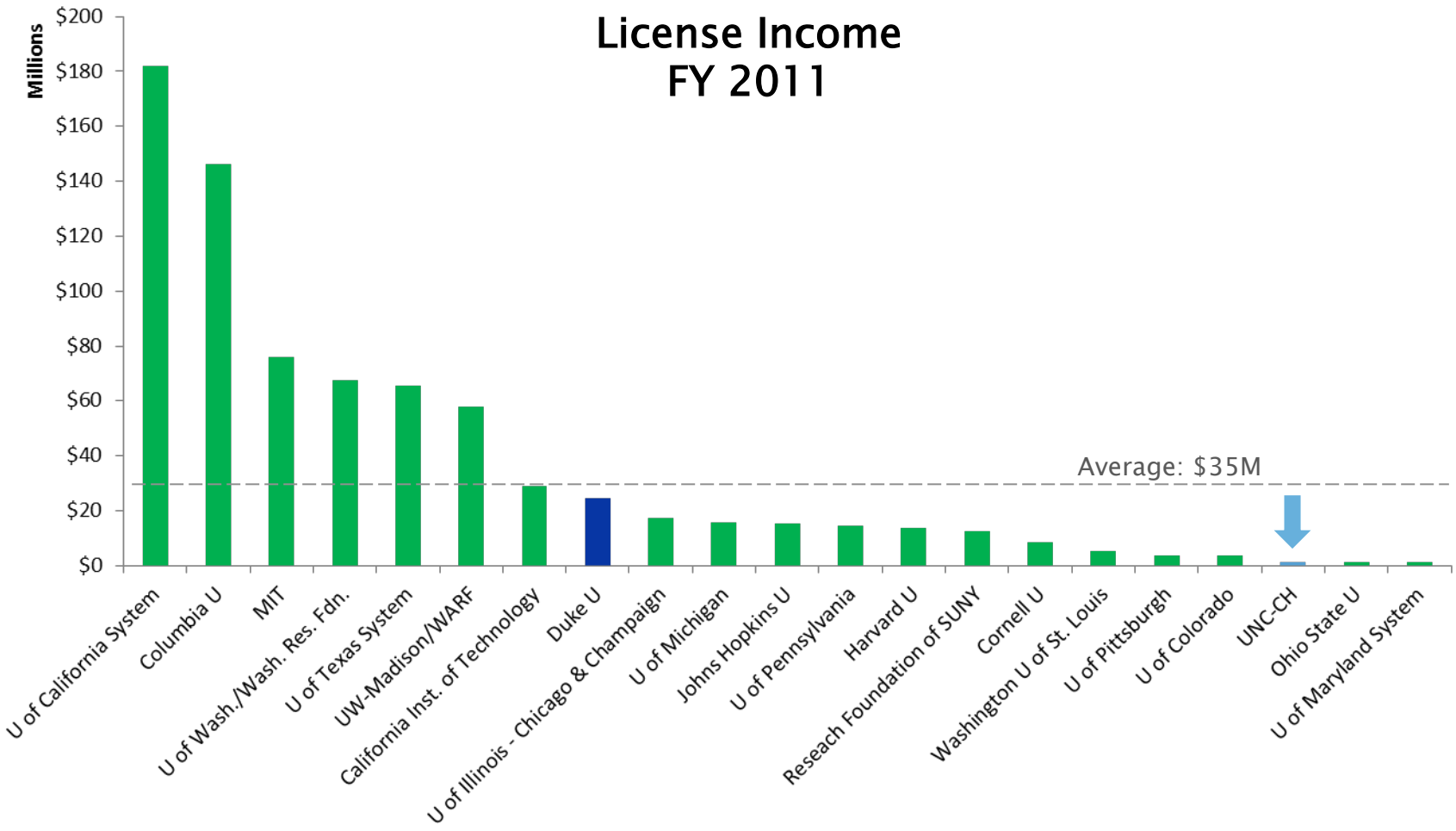
The percent of UNC-CH's research expenditures from industrial relations is 4%



**Data not available

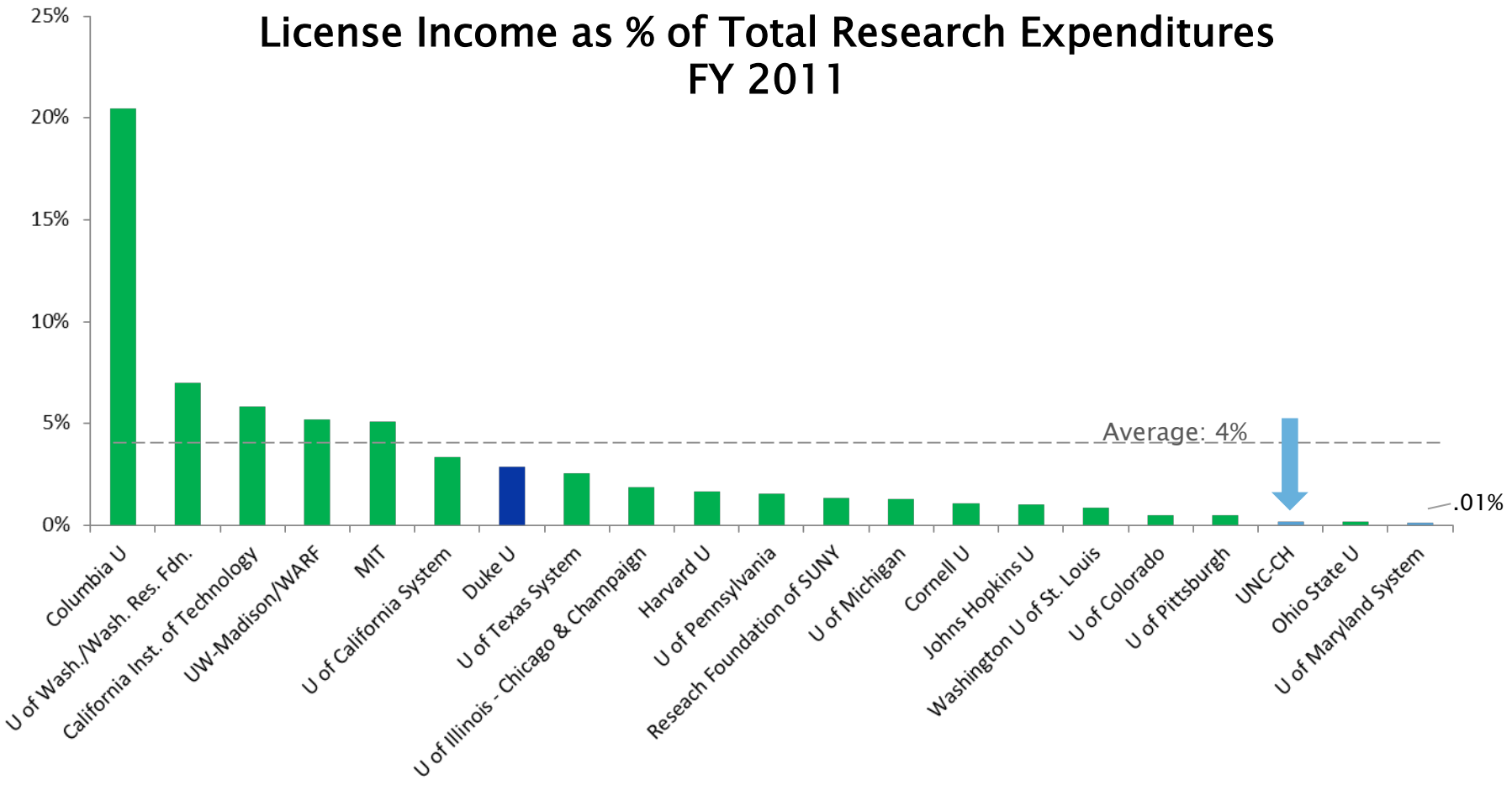
Source: AUTM FY 2011

UNC-CH's license income is $1.5 M



Source: AUTM FY 2011

The percent of UNC-CH's license income compared to total research expenditures is .2%



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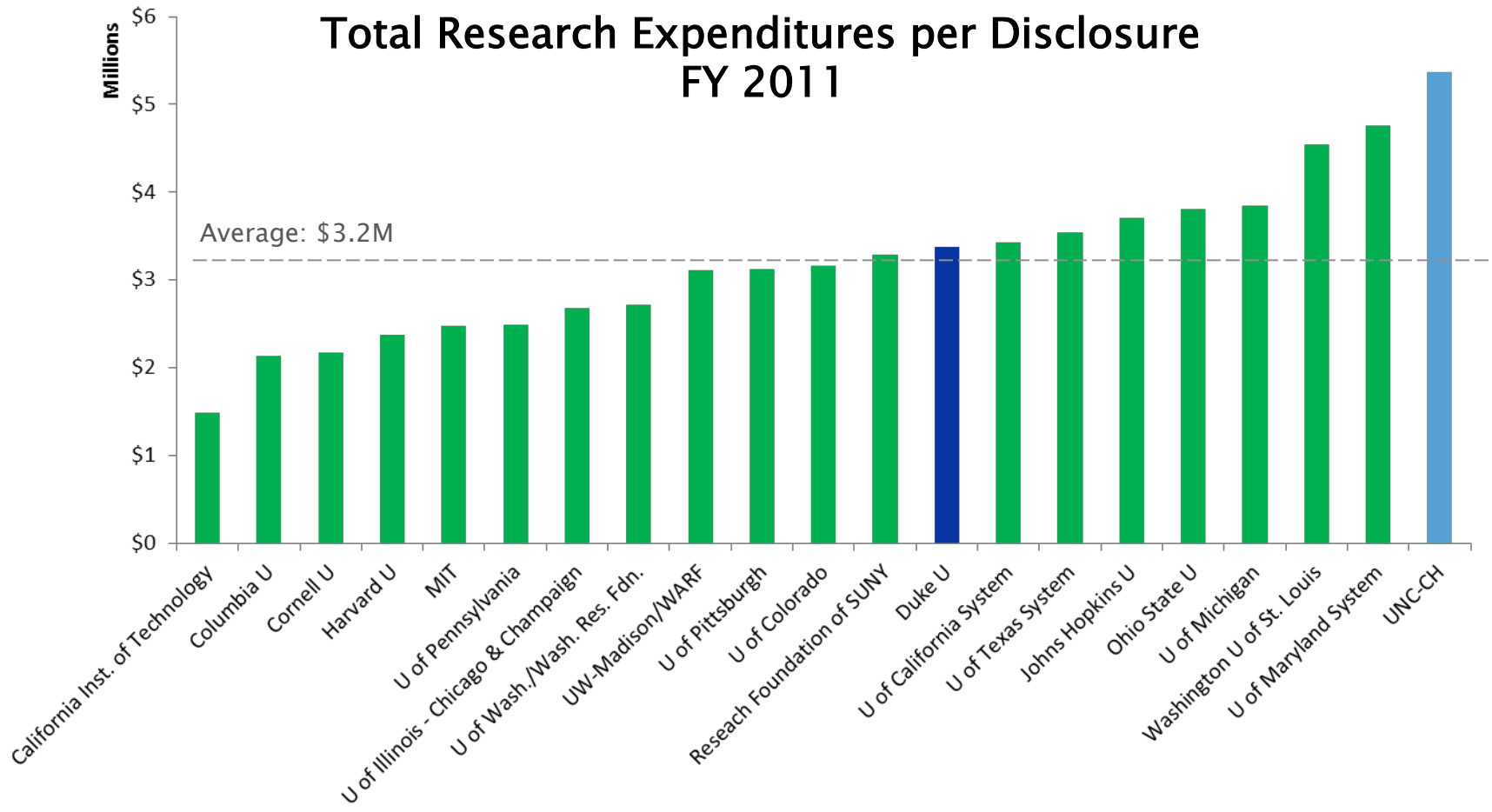
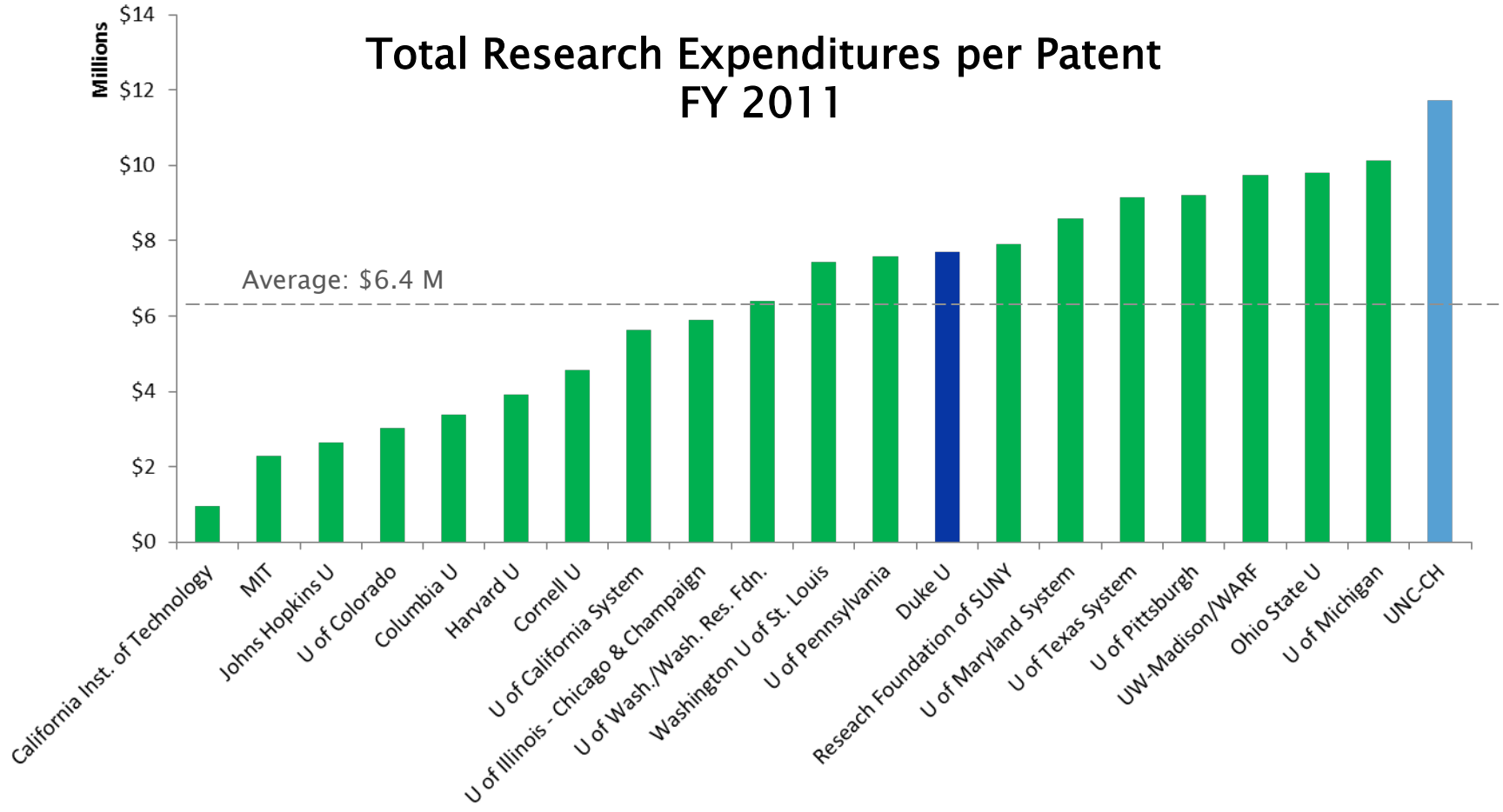
Source: AUTM FY 2011

UNC-CH's research expenditures per disclosure is ~$5.4 M



Source: AUTM FY 2011

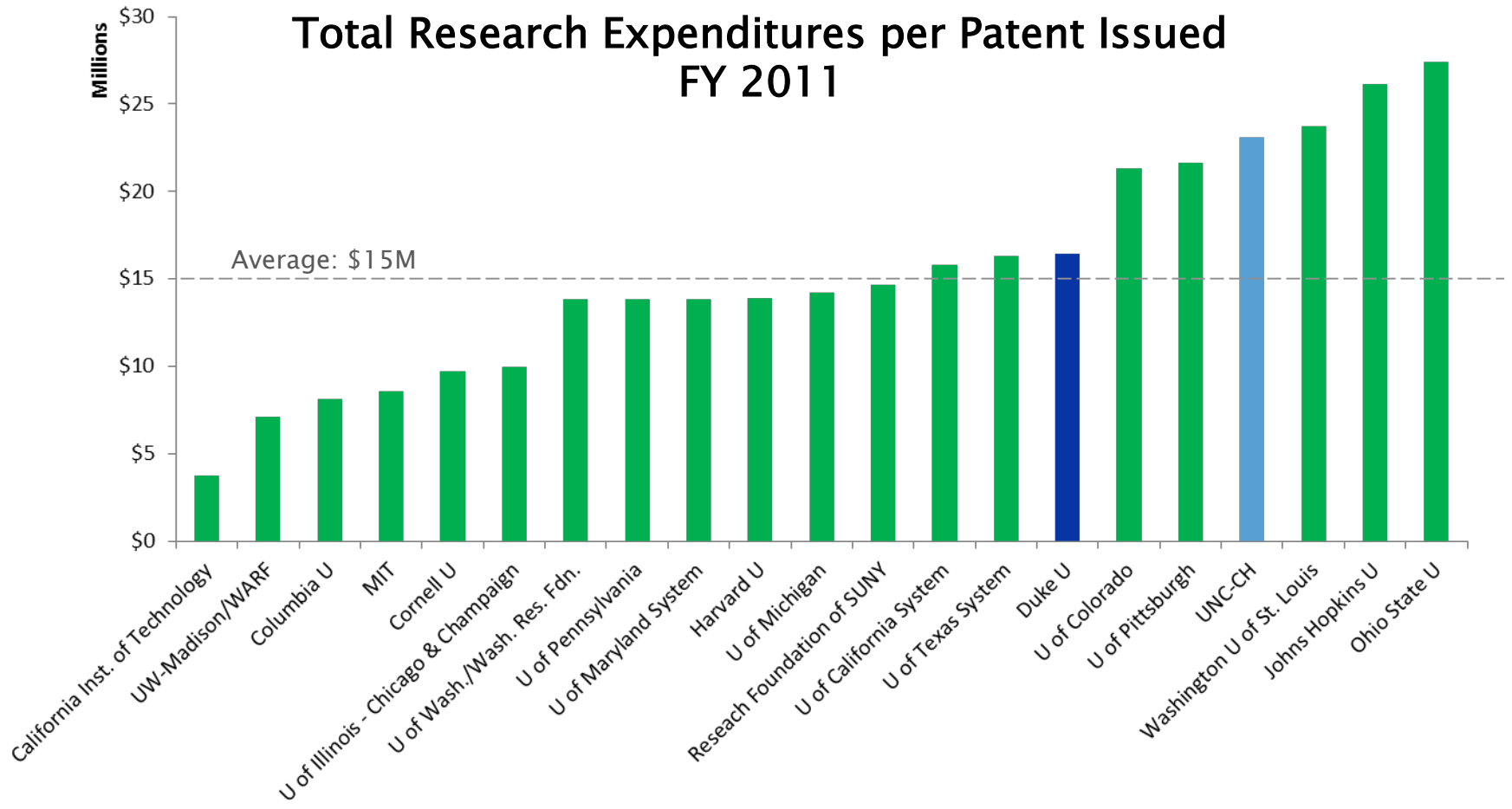
UNC-CH spends more research dollars per patent than any top 20* school



*Top 20 in Federal Funding in 2011

Source: AUTM (Association of University Technology Managers) FY 2011

UNC-CH's research expenditures per patent issued is ~$23.1 M



Source: AUTM FY 2011