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- Task Force Charge
- Committee #1: Faculty Enhancement
- Committee #2: Student Experience
- Committee #3: Commercialization Process
The Task Force will develop an integrated strategy and plan of action for the commercialization of technology at UNC.

Former Chancellor Thorp’s vision of Carolina “ Carolina is both compelled and poised to accelerate and apply innovation and its accompanying entrepreneurial focus in a concerted and deliberate way to grapple with fundamental issues affecting the quality of human life and, in that context, to help solve the world’s most pressing problems. “

Currently, however, UNC lags behinds its peers in the commercialization of technology.

The Task Force’s goal to address three interrelated questions:

- How does the commercialization of technology relate to the university's tripartite mission of research, teaching, and service? What are we trying to achieve? Are these goals compatible?
- What stands in the way of achieving our goals?
- How can these problems be addressed? How can the resources currently available be best used? What further investments should be made?
Sub-committee on Faculty Enhancement

- Fletcher Fairey
- Maryan Feldman
- Don Holzworth
- Jeff Johnson
- Cam Patterson
- Jackie Quay
- Dhiren Thakker (Chair)
- Ted Zoller
Process

- Committee Discussion on Faculty Perceptions regarding Pros & Cons of Commercializing Inventions
- Survey of Faculty & Postdoctoral Fellows
- Interviews with Faculty Entrepreneurs & Administrators
- Examine the Scholarly Work on Faculty & Commercialization of Inventions
- Conclusions & Recommendations
The Committee View

- **Major motivation for commercializing inventions**
  - It enables faculty to translate research into societal benefit
  - Validation of the value of research
  - Improved quality of science, grantsmanship
  - Diversification of funding portfolio

- **Major disincentives**
  - Worries about poorly managed conflict of interest
  - Promoting inappropriate secrecy
  - Limiting availability of research tools
  - Potential for conflicts among faculty, between faculty and school/university
Survey Construction & Data Collection

- Survey Design
  - Demographic & Background Characteristics
  - The Current Carolina Entrepreneurial Experience
  - The Ideal Carolina Entrepreneurial Experience

- Data Collection
  - Online Qualtrics Survey
  - 3 email reminders from February 9 to February 22
Survey Response

- Response Rate
  - Faculty: 732 responses ~ 13%
  - Post-docs: 162 responses ~ 20%

- Representative with regards to
  - Rank
  - Discipline

- Preliminary Analysis of Results
I frequently think about how my research might be put into practical use

Agree: 75%

By Rank
Assistant Professors: 87%
Full Professors: 72%

By Years at Carolina
Less than 6 years: 82%
7 to 22 years: 75%
More than 23 years: 68%
Following Analysis is Restricted to Individuals who Indicate Technology Commercialization is part of their Career Path
### Knowledge/Use of University Resources to Promote Commercialization & Entrepreneurship

<table>
<thead>
<tr>
<th>Resource</th>
<th>I have used this resource and it was valuable</th>
<th>I have used this resource and it was not valuable</th>
<th>I have heard of this resource but have not used</th>
<th>I am not familiar with this resource</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNC Technology Licensing Office</td>
<td>26%</td>
<td>9%</td>
<td>34%</td>
<td>31%</td>
</tr>
<tr>
<td>Carolina KickStart</td>
<td>13%</td>
<td>4%</td>
<td>32%</td>
<td>50%</td>
</tr>
<tr>
<td>Launching the Venture</td>
<td>12%</td>
<td>0%</td>
<td>28%</td>
<td>59%</td>
</tr>
<tr>
<td>Entrepreneur in Residence</td>
<td>9%</td>
<td>4%</td>
<td>29%</td>
<td>58%</td>
</tr>
<tr>
<td>Kenan Institute of Private Enterprise</td>
<td>7%</td>
<td>3%</td>
<td>37%</td>
<td>54%</td>
</tr>
<tr>
<td>Faculty Bootcamp</td>
<td>4%</td>
<td>1%</td>
<td>30%</td>
<td>64%</td>
</tr>
<tr>
<td>Carolina Challenge</td>
<td>5%</td>
<td>1%</td>
<td>38%</td>
<td>56%</td>
</tr>
<tr>
<td>Innovate@Carolina</td>
<td>4%</td>
<td>2%</td>
<td>43%</td>
<td>51%</td>
</tr>
</tbody>
</table>

31%-64% of faculty are not familiar with these resources.
What Motivates Your Involvement in Innovation and Commercialization?

Increasing the likelihood of application of my research findings
Getting inspiration for new research projects
Building and sustaining your professional network
Raising awareness of my research findings
Improving the understanding of particular phenomena
Source of additional research income
Source of personal income
Keeping abreast of research conducted in industry
Feedback about viability of research
Access to materials or data necessary for research
Helping students/post-docs to find employment
Access to research expertise of industry employees
Access to state-of-the-art equipment, facilities and…
Training of postgraduate students

Preliminary Results from the Faculty Commercialization Survey
## Barriers to Entrepreneurship

<table>
<thead>
<tr>
<th>Barriers</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of time due to job demands</td>
<td>70%</td>
</tr>
<tr>
<td>Lack of financial resources</td>
<td>57%</td>
</tr>
<tr>
<td>Lack of rewards from the university incentive system</td>
<td>44%</td>
</tr>
<tr>
<td>Lack of business skills</td>
<td>37%</td>
</tr>
<tr>
<td>Lack of mentors</td>
<td>31%</td>
</tr>
<tr>
<td>Lack of support from the university</td>
<td>35%</td>
</tr>
<tr>
<td>Worries over potential conflict of interest oversight</td>
<td>29%</td>
</tr>
</tbody>
</table>

Preliminary Results from the Faculty Commercialization Survey
The Ideal Carolina Entrepreneurial Experience: What would be highly valued?

<table>
<thead>
<tr>
<th>Choice</th>
<th>Valuable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assistance from experienced entrepreneurs</td>
<td>73%</td>
</tr>
<tr>
<td>Proof of concept funding</td>
<td>73%</td>
</tr>
<tr>
<td>A streamlined Conflict of Interest oversight process</td>
<td>71%</td>
</tr>
<tr>
<td>Increased funding to assist faculty-based startups with patenting expenses</td>
<td>71%</td>
</tr>
<tr>
<td>Help vetting technology and commercialization opportunities</td>
<td>68%</td>
</tr>
<tr>
<td>Better support for collaborating with industry</td>
<td>68%</td>
</tr>
<tr>
<td>Increased emphasis at Technology Licensing Office on business development and marketing</td>
<td>62%</td>
</tr>
<tr>
<td>An on-campus incubator facility</td>
<td>60%</td>
</tr>
<tr>
<td>Active involvement of Deans and/or academic departments in championing projects</td>
<td>60%</td>
</tr>
<tr>
<td>Entrepreneurial educational programs</td>
<td>59%</td>
</tr>
</tbody>
</table>
Conclusions

- Support and enthusiasm for entrepreneurship and commercialization of innovation, with range of opinions
- Motivations for involvement in entrepreneurial activity are more due to research goals than personal reward.
- The most significant barrier is lack of time and other resources
- There is a lack of knowledge of the resources that are available
- Anticipate increased demand from faculty regarding innovation, entrepreneurship and innovation
Putting important ideas to use for a better world

Innovation & Entrepreneurship
Student Experience

UNC-Chapel Hill Board of Trustees Meeting | Judith Cone | 11.20.2013 | innovate.unc.edu
Impact – UNC Chapel Hill

Vision

With a special focus on urgent challenges, innovators and innovations launched at Carolina consistently put to use important ideas for a better world.

Mission

Ensure that UNC is a place where innovators thrive.

(Innovation = unique + valuable + implemented)
Students and Commercialization

For Carolina students to thrive in the 21st Century, they must be prepared with an entrepreneurial mindset and skillset, and do translational work to imagine, design, build, launch and lead in whatever career they choose.
I - Shaped Students

- **Top**: Emotional Intelligence, Design Thinking, Cultural Competence, Global Citizen
- **Vertical Bar**: Expertise in Majors and Minors
- **Bottom**: Implementation (Entrepreneurship mindset and skillset)
Goals for students involved in commercialization

• **Startups.** Develop an entrepreneurial mindset and skillset -- apply both through translational actions.
  – Hopefully the student startup will be successful, but company building is difficult. Students will be better prepared for the next commercialization activity due to the knowledge gained from and support offered by the campus entrepreneurship ecosystem.

• **Supporting others.** Often students are involved in a supporting role in commercialization activities.
  – Not the founder but they gain new knowledge about various technologies, entrepreneurship, and other business skills for translation of ideas into commercial success.
  – Graduate students sometimes have the opportunity to work closely with the faculty advisor not only on the science/technology but on the commercialization activities.
Goals for the Carolina commercialization ecosystem related to students

• **Integrate** across units the programs and support being offered to students so that there is a comprehensive set of educational and support programs.

• Fill **the gaps** for programs, funding, and opportunities.

• Senior administrative leaders, deans and center directors, department chairs, and faculty recognize the **value** of commercialization and **encourage** and **support** students as they engage in these activities.
Entrepreneurial Mindset and Skillset

• An entrepreneurial **mindset** - a way to see problems as opportunities, question assumptions, conduct analyses, take purposeful action, engage partners, try alternative solutions, learn from failures, make meaning, and persevere to reach a goal. Entrepreneurial thinkers ask:
  – What is the need? Break apart the problem to see it in fresh ways.
  – What is the opportunity?
  – What is the status quo response?
  – Does it have to be this way?
  – Is it the best way?
  – What might be better ways?
  – What can I do?

• An entrepreneurial **skillset** – combining design thinking, lean startup, business models in order to know how to move ideas into reality to create value.
Commercialization and students

- University-owned IP – only relevant in rare student cases.
  - Students are most likely engaged with faculty members helping the faculty member create licensed IP and startups.
- Non university-owned IP – the majority of student startups fall in this category.
UNC Campus Support

Innovation & Entrepreneurship Network

- **COLLABORATION**
  - UNC Programs Working Together
- **FUNDING**
  - Grants and Seed Capital for UNC
- **SPACES & TOOLS**
  - On- and Off-campus Places and Programs for UNC Faculty, Students and Staff
- **MENTORS**
  - People Helping UNC People with Ideas
- **PROCESSES**
  - Processes: UNC Rules, Policies and Procedures that Support I & E
- **LEADERSHIP**
  - Vision and Strengthening Culture
- **COURSES AND CO-CURRICULAR**
  - UNC Educational Programs
Making it matter
From butterfly wings to solar cells
UNC’s Ed Samulski turns inspiration to collaboration to develop breakthrough technologies in alternative energy

IN THE NEWS

Behind The Beat: UNC’S First Beat Making Lab [PBS Digital Studio Video] 

Aldrich Wins Babson Entrepreneurship Lifetime Achievement Award 

The Ph.D. Fabricator

SPECIAL FOCUS

WATER IN OUR WORLD
Pan-Campus Theme 2012-2014

MORE INFORMATION

Search Our Site

DATES TO KNOW

Jul 24
1 Million Cups at Launch Chapel Hill

Jul 25
Tech Venture Demo Company Applications Due

Aug 21
Startup Workshop: Prep for Launching the Venture

TWEET
@innovateunc

Don’t miss @1MillionCupsTRI at @Launch Chapel Hill this Wednesday morning 9am #startups #entrepreneurship #innovatorsthrive

THE UNIVERSITY of NORTH CAROLINA at CHAPEL HILL

GET INVOLVED
Commercialization Task Force
Committee on Commercialization Strategy and Process

Joseph DeSimone, Chair

Ned Sharpless
Ric Boucher
Alexander Kabanov
Ming Lin
Will Lambe
Robin Cyr
Jackie Quay
Recommendations from the Committee

**Recommendation:** UNC should declare that the increased commercialization and impact of our research is a priority for our university, for our state and for our nation.

### Innovation, Entrepreneurship and Economic Development Initiative

<table>
<thead>
<tr>
<th>Compliance</th>
<th>Patents</th>
<th>Business Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Bayh-Dole Act compliance</td>
<td>• Assessment</td>
<td>• New Company Formation</td>
</tr>
<tr>
<td>• Greater awareness of invention disclosure process through web presence, etc.</td>
<td>• Patentability &amp; Strategy</td>
<td>• Industrial Alliances (collaborative deals to generate new IP)</td>
</tr>
<tr>
<td>• MTA’s with Academic Entities</td>
<td>• Landscape</td>
<td>• Out-license IP to Industrial Entities</td>
</tr>
<tr>
<td></td>
<td>• Market Assessment</td>
<td>• Clinical Trials</td>
</tr>
<tr>
<td></td>
<td>• Decision Process</td>
<td>• Staff skill sets to include legal and business development</td>
</tr>
<tr>
<td></td>
<td>• Review and decision by Committee of Deans and Chairs (or designates)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• In the case of “no”, option to faculty exclusively</td>
<td></td>
</tr>
</tbody>
</table>

We propose an allocation from the F&A each year. Rationalized to

- Research expenditures
- IP generation
- Commercialization activities
- Avoids the annual anxiety related to financial commitment
Recommendation #2: Conflict of Interest (COI) – Separate but Aligned (reporting into Chancellor or Provost)

Conflict of Interest Office

- Structured to provide appropriate level of oversight and management of conflicts
- Clear and streamlined guidelines on conflict management
- Create an open culture with a focus on the customer