



## MEMO

Date: September 12, 2014  
To: UNC Chapel Hill Board of Trustees Committee on Innovation and Impact  
Chair, Phil Clay  
From: Judith Cone, Special Assistant to the Chancellor-Innovation and Entrepreneurship  
Re: Overview of Status Report on the UNC Chapel Hill Innovation Ecosystem

Barbara Entwisle, Vice Chancellor of Research, Joe DeSimone, Chancellor's Eminent Professor of Chemistry, UNC, and I have worked together on this Committee, and I am grateful to Vice Chancellor Entwisle for her input on these documents. As you know, Professor DeSimone is on leave as he is building a venture capital-based 3-D printing company in Silicon Valley.

Members of the Board of Trustees Committee on Innovation and Impact, together with UNC Chapel Hill senior leaders and campus colleagues, have been exploring how to build a superior ecosystem for innovation and entrepreneurship. The goal is to produce maximum social and economic impact for the citizens of North Carolina and beyond. This will require a fertile mix of programs, resources, and relationships to support and enhance innovative work by a wide variety of people in the University community as well as introduce major new initiatives.

And the creation of such an ecosystem has now reached a pivotal point. Much has been done; the campus is filled with existing and new activity. More needs to be done in order to build on early results and tap the University of North Carolina at Chapel Hill's full potential for impact. We are grateful to the Board for its committed leadership and look forward to continued work together.

The *Status Report on the UNC Chapel Hill Innovation Ecosystem*, which accompanies this memo, is framed as a set of responses to questions posed by Committee Chair Phil Clay in his June 10, 2014 memo. Chair Clay's document asked for updates and recommendations on a wide range of items related to the complex, campus-wide efforts in innovation. In the enclosed *Status Report*, the responses are grouped into five categories covering fourteen key questions. Each key question is answered in the same format: a summary of *Actions To Date*, a recap of *What We Have Learned*, and recommendations on what *Remains To Be Done*.

For a more focused view, this memo provides a brief on the full *Status Report*.

- It starts with a few short narrative sections outlining the nature of the work, where it stands, and major priority areas going forward.
- Then, since the Committee's main interest is in what lies ahead, informed by the past, the rest of the memo contains the forward-looking parts of the *Status Report*. For all key questions, the *Remains to Be Done* sections are included in this memo. They are presented in order, with only a minimal amount of introduction to each.

## SUMMARY OF STATUS REPORT ON THE UNC CHAPEL HILL INNOVATION ECOSYSTEM

### **Strategy guides the work.**

Innovation work at Carolina continues to be guided by the strategic direction described in the *Innovation Roadmap* of 2010. The *Roadmap* and *Two-Year Progress Report* (covering progress through 2012) are available at <http://innovate.unc.edu/impact/strategy>. Per the plan of conducting a formal review every other year, the second progress report will be released in a few months, and will go into greater detail about innovation and entrepreneurship work through 2014. The innovation vision and mission are:

*Vision:* With a special focus on urgent challenges, innovators and innovations launched at Carolina consistently translate important ideas for the public good.

*Mission:* Ensure that Carolina is a place where innovators thrive.

Chancellor Folt speaks in terms of the University being an excellent, accessible, innovative public institution that excels at research, teaching, and translating ideas into impact. It is now time to solidify the innovation infrastructure, continue to learn from others, better engage strategic partners, and dedicate the same relative level of investment that has been committed to the University's research and teaching missions.

### **We have a community of dedicated people working together.**

It is appropriate to acknowledge all those who have advanced the innovation and entrepreneurship agenda as early adopters. Starting in 2003 with the Kauffman Campuses grant, through the 2010 strategic planning efforts to their implementation today, a small number of staff and unit leaders have worked tirelessly to create programs, run spaces, mentor others, file patents, secure licenses for intellectual property, help create ventures, and engage a wide community of supporters. Consequently, this campus is regularly lauded as a leader in entrepreneurship education, and as being in the vanguard of building a culture of innovation.

We are grateful to the Deans and their faculty and staff who not only initiated many programs, but have opened them to the entire campus and community. We applaud the students who

have championed practical innovation as a way to make a difference in the world. Finally, none of this would have been possible without the support of donors and the commitment of senior leadership and the Board of Trustees.

The University has made great strides, some highlights of which will be noted briefly in this memo. Evaluation and impact measurement continue to be important, as does communicating the multi-faceted value generated by Carolina. Much more attention to measurement and communication is needed.

### **The campus is at a pivotal moment.**

Progress in innovation and impact at UNC Chapel Hill has reached a pivotal stage. The collaborative spirit of Carolina faculty, staff, and students has allowed many initiatives to thrive and grow with very few resources. Senior leaders are dedicated to ingraining innovation into the campus' identity, and to harnessing the resources needed to leap forward and become an exemplar university in this field. Donors have supported these activities and are ready to support more.

Several task forces and strategic planning efforts have articulated needs and solutions, providing the framework to move the innovation agenda forward. Areas receiving task-force (or task-force-quality) attention have included: industry relations, commercialization of University IP, support for new ventures, new curricula in applied physical sciences, biomedical engineering and data studies, and needs for physical space.

Many new programs already are nurturing their first fruits. More important, the combined efforts of many have moved UNC Chapel Hill to the threshold of next-level gains. It is worth stepping back briefly to consider the general nature of where we stand:

### **The University is poised for even greater impact.**

The goal is to produce ever-increasing social and economic benefits for the State of North Carolina and beyond. This, in turn, requires an ecosystem with two main features: *excellent infrastructure*, and *a high level of human engagement*.

- *Excellent infrastructure* means a strong set of programs, processes, facilities and resources for translating ideas into practical form. It includes systems to move faculty along the path of developing their research for commercial use. It includes programs that prepare people to be innovators and entrepreneurs—such as by teaching startup skills and/or relevant technical skills—and that help new ventures take off. Beyond licensing and startups, there are myriad other ways of putting new ideas to use and some of these need supporting infrastructure as well.
- *A high level of human engagement* means bringing many people into the work. Large numbers of faculty, students, and people in the region need to become involved as

active innovators, while many more serve as advocates, helpers, or funders. Senior leaders need to align their resources and create supportive processes. Our efforts need active support from many external constituents such as partners from industry, the alumni base, and other funders.

These elements, when combined, can lead to powerful impact. And UNC Chapel Hill is now firmly on the road towards having a winning combination.

**It is time to scale and sustain the work and seek disruptive opportunities.**

One way to view the work to date is as a successful proof-of-concept stage. We have shown that the innovation ecosystem is feasible, desirable, viable and relevant to nearly every area of the campus. New programs are succeeding; more people are participating; some initial results (such as increased startup activity) are evident. And now the larger possibilities beckon. Like an emerging company that has validated its technology and its business model, this ecosystem is now ready for the investments that will move it to full-scale production mode. The ecosystem needs to be constantly improved and capable of producing both incremental and disruptive innovations.

To take innovation and impact to the next level, the entire agenda needs to be *institutionalized* and *resourced* at higher levels. Two pressing needs stand out.

- If technology commercialization and economic development are to be major strategic functions of the University, a dedicated office needs to be created to lead, coordinate and direct them. At present, direct responsibility for these functions is shared between a small OTD staff on a limited budget and various units across campus. While localized, grassroots efforts are both commendable and necessary, they must be balanced with central leadership and fully resourced.
- Funding is necessary to stabilize, expand, and create the missing pieces to the ecosystem. The University needs a budget for innovation and impact, and funding goals need to be part of the upcoming capital campaign. This would include funding for the new office just mentioned, as well as support to make various ground-level efforts *sustainable and scalable*, create missing programs, and build the needed spaces required.

***Examples of Progress to Date and Emerging Needs***

Some highlights of work done in recent years:

- In 2010, UNC Chapel Hill had *no* dedicated facilities for nurturing startups. Now it has a wide array with more planned, with associated education-and-support programs, all being heavily used: KickStart Labs, CUBE Social Innovation Incubator, Launch Chapel Hill, 1789 Venture Lab, and more. The new CreatorSpace is set to open next year in

Murray Hall. But limits have been reached. A number of these facilities and programs are either at their carrying capacities, and/or about to lose their physical spaces soon—at the very time when demand for them keeps growing rapidly.

- Under the Vice Chancellor of Research, operations of the Office of Technology Development have been upgraded and streamlined. However, it is unreasonable to expect the six licensing associates in OTD alone to make quantum-leap gains – indeed, other units on the campus have started their own, domain-specific commercialization efforts to complement the work of OTD. Creation of spinout companies has increased due to the work of OTD, Carolina KickStart, the Center for Entrepreneurial Studies, the CUBE, and the Frank Hawkins Kenan Institute of Private Enterprise, as well as school and department liaisons. Innovations like the Carolina Express License, designed to incentivize faculty and streamline the licensing process, have also contributed to increased technology spinouts. It would help greatly to put all of these under the aegis of the new office mentioned above so that there is central integration as well as distribution across the campus. The University community will continue to create new initiatives and to augment the agenda with further support.
- Since the Kauffman Campuses grant of 2003, UNC Chapel Hill has become a leader in entrepreneurship education. More recently, faculty working groups have led the creation of new or augmented programs in subject areas critical to innovation such as Applied Physical Sciences, Biomedical Engineering, and Data Studies. All of these need further funds in order to grow and flourish sustainably. Furthermore, new initiatives of this type such as examining how to strengthen the department of Computer Science need to be considered and coordinated strategically.

### **What remains to be done?**

The remainder of this memo is dedicated to the third part of each of the responses in the longer *Status Report*: Itemizations of what *Remains To Be Done* in key areas. First the questions posed by Chair Clay are presented, followed by the next steps recommended to address them.

We look forward to discussing this with you.

**QUESTIONS POSED BY PHILIP CLAY  
ON BEHALF OF THE INNOVATION & IMPACT COMMITTEE**

Key questions laid out in Chairman Clay's memorandum of June 10, 2014 are summarized here. Some are paraphrased and all are arranged into five main topic areas, which will serve as a template for the rest of the report.

**A. Leadership, Strategy, and Alignment**

- What are the optimum administrative structures and functions for leading our efforts in innovation and entrepreneurship? What are the roles of other senior officers and deans? How is the faculty mobilized for various roles?

**B. Carolina's Innovation Assets**

- How does research connect throughout all of our programs and work in innovation and entrepreneurship?
- What does an innovation agenda mean for various segments of the UNC Chapel Hill community and their activities? (education programs, student activities, faculty, staff, alumni, town-gown relations)
- How can we best address design (and cultivate "design thinking") in innovation and entrepreneurship?
- What are the space requirements to support a robust innovation ecosystem? What is our strategy for Carolina North? Does the existing plan hold up? If not, how will we determine what to do?
- How can we leverage Carolina's global brand for maximum impact?

**C. External Engagement**

- How can we engage industry partners in building a strong innovation ecosystem?
- How can we form a strong regional infrastructure of support for our innovation agenda in the Triangle?
- How can we build and maintain an innovation ecosystem that supports both broad and deep engagement with the state?

**D. Funding**

- How will we adequately fund our research and its application, in light of declining federal and state dollars?
- How can we engage the venture community in support of new ventures?
- How does an innovation agenda relate to a university development campaign – and to other possible opportunities for funding?

**E. Learning and Communicating**

- How can we continually learn from others while also leading in innovation and entrepreneurship?
- What communication strategies are needed to bring the University community and the public on board with our innovation agenda – and to tell the story of impact?

**WHAT REMAINS TO BE DONE**  
**Responses from the Status Report**

**A. LEADERSHIP, STRATEGY, AND ALIGNMENT**

**Q: What are the optimum administrative structures and functions for leading our efforts in innovation and entrepreneurship? What are the roles of other senior officers and deans? How is the faculty mobilized for various roles?**

**Remains to Be Done — I&E OFFICE**

*Recommendations*

- Continue to be a catalyst. Articulate the vision and mission, engage a wide variety of internal and external stakeholders, and advocate for a culture of innovation and entrepreneurship campus-wide.
- Continue to evaluate the ecosystem, advocate for necessary changes and promote new advancements in how our campus accomplishes this work.
- Implement tools that can be shared within the *Carolina I&E Network* such as the adoption of Salesforce, which is under way.
- Celebrate successes and tell the stories of innovators and their impact.
- Help raise funds for campus initiatives.

**Remains To Be Done — OFFICE OF RESEARCH**

*Recommendations*

- Continue the mission of growing research and maximizing its impact. Work closely with the Offices of Development, Communication, Innovation & Entrepreneurship, and the proposed Office of Commercialization and Economic Development, as well as with departments, centers, and institutes, to help increase research funding and facilitate the translation of research into practical benefit.
- Provide streamlined services for sponsored research proposals and agreements with private industry through the Office of Industry Contracting.
- Enhance communication research benefits through the Office of Research Communications.

**Remains To Be Done — PROPOSED OFFICE OF COMMERCIALIZATION AND ECONOMIC DEVELOPMENT**

*Recommendations*

- Create the Office of Commercialization and Economic Development to fulfill the following two missions:

*Mission for Commercialization – From Invention to Impact: Provide maximum benefit to the people of North Carolina and beyond by optimizing the University’s systems for practical innovation, and by licensing university intellectual property promptly to those who will most effectively and appropriately propagate it into use for society.*

*Mission for Economic Development: Grow North Carolina's economy and competitiveness by engaging key faculty/staff experts and students to develop and implement a strategy to address economic development drivers in our State.*

#### **Remains To Be Done — SENIOR OFFICERS AND DEANS**

##### *Recommendations*

- Continue to include goals related to innovation and impact in their strategies and actions. Senior leaders need to align institutional resources and processes accordingly. Since the Chancellor and Provost are working closely with administrative leaders and deans on strategic planning and the Development Office is preparing for the new capital campaign, this is the time to incorporate innovation goals.
- Articulate to their constituents how and why the University is building an innovation ecosystem and how it is relevant to their areas of responsibility or research. Specifically encourage their faculty, staff, and students to consider the rewards of converting ideas into practical benefit.
- Balance central services and unit programs to keep them strategically aligned and fully integrated.
- Deans: Continue creating structures and environments that support innovation. Prioritize innovation initiatives in development goals as well as in communication strategies. Following the lead of some deans, it is helpful if each assigns an innovation and entrepreneurship liaison officer to join the university's I&E Network group, and to serve as an internal contact person and champion. The Schools of Medicine and Pharmacy and the Department of Computer Science have associate deans/chair with titles related to entrepreneurship.
- Deans: Ensure that their faculty feel supported in undertaking scholarly work in ways that benefit non-academic sectors and have impact. Align incentives and rewards.

#### **Remains To Be Done — MOBILIZING FACULTY FOR VARIOUS ROLES**

##### *Recommendations*

- More effectively help faculty understand that translation is an extension of their scholarly pursuits.
- Find ways the University can incentivize and facilitate translational work. For instance, faculty need time to invest in the translation process.
- Effectively guide faculty through the translation process.
  - Expand the Faculty Bootcamp or some such equivalent(s).
  - Use successful, respected faculty innovators as mentors and guides for others. Expand on the KickStart Faculty Fellows program – which is modeled after a University of Utah program.
- Streamline the Conflict of Interest Review process.
- Create a cross-campus entrepreneurship education curricular committee to continue refining how faculty teach entrepreneurship to various audiences.
- Better engage with Carolina faculty who are noted scholars in innovation and entrepreneurship to learn from them and extend their scholarly work.



## B. CAROLINA'S INNOVATION ASSETS

### Q: How does research connect throughout all of our programs and work in innovation and entrepreneurship?

#### Remains To Be Done — RESEARCH

##### *Recommendations*

- Given the focus at Carolina (and, indeed, nearly everywhere) on interdisciplinary work, continue to promote collaboration and research across disciplines as a fertile source of potential innovations.
- Develop more integrated, clearer systems and support for faculty interested in commercializing their research including allocating time for faculty to become involved.
- Create and implement a comprehensive plan to educate and involve graduate students and post docs in the translational work of the campus, while also pursuing studies within their disciplines. Include connections between MBAs and graduate students and post docs in the sciences.
- Within the general structure of federal and state regulations, resolve conflicts of interest in an expedient, fair, and respectful manner so that faculty and graduate students are able to appropriately engage in innovation activities.

### Q: What does an innovation agenda mean for various segments of the UNC Chapel Hill community and their activities?

#### Remains To Be Done — EDUCATIONAL PROGRAMS

##### *Recommendations*

- Continue developing and enhancing the entrepreneurship curriculum in units across campus to include methodologies for the entire innovation process: imagine-design-build-grow. Incorporate creativity and design thinking more fully in the existing entrepreneurship programs.
- Strengthen entrepreneurship educational programs for graduate students and post docs. Identify funding that could facilitate participation in these programs.
- Continue creating/expanding courses in Applied Physical Science, Biomedical Engineering, Data Studies, and Computer Science.
- Create targeted programs to best meet the needs of faculty in learning how to translate their work. Focus on just-in-time learning with a mixture of online tutorials, mentoring, and small groups.
- Market the educational programs more effectively, and in general make it easier for all audiences to find the resources and people they need.

#### Remains To Be Done — STUDENT ACTIVITIES

##### *Recommendations*

- Better align student innovation activities with the research agenda of the University, exposing students to problems and potential solutions in areas outside their personal knowledge, and

attuning them to the University's efforts to address pressing global challenges. This will help to expand students' thinking, so that when they generate their own ideas for startups (as many now do), they can see possibilities beyond the limited scope that is often typical of student enterprises.

- Engage graduate students more fully in the innovation agenda.
- Find ways to harness the expertise of post docs and when appropriate, engage them with faculty spinouts.
- Better market campus resources to all students.
- Expand the Innovation Scholars program.

### **Remains To Be Done — ALUMNI RELATIONS**

#### *Recommendations*

- Develop a high-level strategy for engaging alumni support for the innovation agenda. Segment the alumni and call upon them for their expertise as entrepreneurs, investors, and subject-matter experts as well as donors.
- Create an Innovation Fund for the campus that would support all aspects of the innovation agenda.
- Tie in alumni through regional innovation hubs.

### **Remains To Be Done — TOWN-GOWN RELATIONS**

#### *Recommendations*

- Continue working with Chapel Hill and Orange County officials on how to attract, support, and retain entrepreneurs and harness innovation for the economic and social benefit of the community. Good relations have been established and talks are underway for next phases of this work.
- Encourage landlords who own office space to offer flex terms and lower rents for startups.
- Build a world-class Innovation Center in Downtown. (see Space section)
- Create a strategy to engage local influential individuals in this work.

### **Remains To Be Done — FACULTY**

#### *Recommendations*

- Reach more faculty with the opportunities of the innovation agenda.
- Develop an integrated network of innovation liaisons working with a core staff to be closely in tune with all faculty work and to educate faculty about Carolina's innovation agenda and resources.
- Create integrated, comprehensive systems that support faculty from early-stage innovation through all phases of translating knowledge into practical use. Build bridges of assistance across gaps in the process that are hard for faculty innovators to traverse on their own.
- Streamline all systems to remove resistance to the process, especially conflict of interest and facilities use.
- Find the resources needed for faculty to pursue innovations.

## **Remains To Be Done — STAFF**

### *Recommendations*

Garner resources to bring additional staff support to the innovation ecosystem. Develop clear linkages between the offices and programs that provide staff support and guides to help others navigate the landscape.

## **Q: How can we best address design (and cultivate “design thinking”) in innovation and entrepreneurship?**

## **Remains To Be Done — DESIGN**

### *Recommendations*

- For faculty entrepreneurs, integrate ideation and design methods into the full-service technology development approach that begins in the lab, well prior to invention disclosure. Lean Startup methods for the life sciences are made available through an NIH program, but our campus needs to create its own version.
- For students, support full integration of design methods into areas where this is already being done or planned—notably APS, BME, the proposed Data Studies competencies, and the CreatorSpace – while exploring potential uses of the methods in other curricular and co-curricular offerings.
- Expand the University’s educational programs in design thinking for faculty and University program leaders, and continue exploring ways to ingrain design on our campus, especially as we create new spaces for innovation.

## **Q: What are the space requirements to support a robust innovation ecosystem? What is our strategy for Carolina North? Does the existing plan hold up? If not, how will we determine what to do?**

## **Remains To Be Done — SPACE**

### *Recommendations*

- Allocate adequate space for Applied Physical Sciences, Biomedical Engineering, and maker space: The Chancellor, Provost, Dean of Medicine and Dean of Arts and Sciences are addressing these needs and have made significant investments.
- Find permanent wet lab and office space on campus for faculty entrepreneurs and their spinouts. The need is immediate and urgent, with the current space at the Genome Sciences Building due to be vacated by February 2015.
- Create an Innovation Headquarters on central campus. Having such a physical location would present a strategic opportunity. It would serve as a front door for the campus where people can come for assistance, and donors could be inspired by a tangible reminder of the impact Carolina is having. The proposed Commercialization and Economic Development Office could also use this space for some of its activities.
- Build a world-class Downtown Innovation Center. A proposed downtown Chapel Hill Innovation Center (CHIC) would bridge the campus and community while becoming home to the already-successful accelerator, Launch Chapel Hill, and the popular 1789 Venture Lab. (With its current lease expiring in December 2015, Launch Chapel Hill is considering its

options.) In addition to event and ideation space and a design center, CHIC would provide new spaces for growing companies that want to stay in Chapel Hill, including potentially those requiring web lab space, as well as space for investors and professional service providers, and for strategically chosen industry partners such as the local Google office. The groups of people involved in creating Launch Chapel Hill and 1789 are actively engaged in conversations about CHIC.

- Investigate building a Life Science Innovation Center. There are several reasons to build an innovation center for the life sciences: 1) It will be a place where industry can interface with faculty and graduate students; 2) Commercialization staff can have offices near a large portion of the University's innovation portfolio; and 3) It will provide much-needed faculty access to wet-lab space, offices, and equipment as they remain full-time professors/researchers but also start a company. Once the Genome Sciences space is unavailable come February 2015, faculty startups will have no space on campus. New resources need to be available to all faculty, even if they are administered by an academic unit.

#### **Q: How can we leverage Carolina's global brand for maximum impact?**

##### **Remains to be done — GLOBAL BRAND**

###### *Recommendations*

- The choice of *Water in our World* as the University's first cross-campus theme, three years ago, has proven successful on several fronts. Decide if there will be another cross-campus theme, or perhaps a series of smaller themes, that draws together the Carolina community to address major issues.
- Recruit top faculty and graduate students who are globally oriented and have a strong translational bias.
- Leverage the power of Carolina's alumni and families to grow a global innovation ecosystem.
- Explore the idea of regional hubs and how they might support the innovation agenda.

### **C. EXTERNAL ENGAGEMENT**

#### **Q: How can we engage industry partners in building a strong innovation ecosystem?**

##### **Remains To Be Done — INDUSTRY RELATIONS**

###### *Recommendations*

- In the next few months, the Offices of Research, Development, and the proposed Commercialization and Economic Development Office will work with the Chancellor and Provost, Career Services, deans and others to develop a common shared plan for UNC Chapel Hill's collaborations with industry.
- Better coordinate within the University.
- Pursue (and, where necessary, expand) efforts to align University policies and procedures with industry practices and expectations.

- Communicate to industry that UNC Chapel Hill is actively seeking partnerships.
- Make it easy for industry to know how to enter the University’s “front door,” and smooth the way for industry partners to work with us.

**Remains To Be Done — REGIONAL**

*Recommendations*

Create a comprehensive strategy for maximizing local industry-university partnerships. The Offices of Development, Research, proposed Commercialization and Economic Development, Career Services, and unit representatives will need to work together on the plans and their execution.

**Remains To Be Done — WORKFORCE**

*Recommendations*

- UNC Chapel Hill has an opportunity to partner with industry and to gain synergies by better understanding workforce needs across industry sectors. University-industry relations should include mechanisms for engaging external stakeholders in the development of ways to ensure that our graduates have critical skillsets, which will vary by discipline but also include core strengths in areas such as data and innovation processes.
- Develop alternative career tracks for PhDs, including working in faculty spinouts and/or starting their own ventures. Strengthening this area will give the University a platform to better understand statewide needs and develop new strategies for addressing them.
- As UNC Chapel Hill forms its economic development strategy, there will be opportunities to leverage engagements with the nine regional economic development partnerships in the state and NC Business Development in the Department of Commerce.

**Q: How can we form a strong regional infrastructure of support for our innovation agenda in the Triangle?**

**Remains To Be Done — REGIONAL**

*Recommendations*

- Continue to build on established relationships with NC State, Duke and NC Central and identify specific opportunities for multi-institution collaboration on projects related to innovation and entrepreneurship.
- Develop Blackstone 2.0, taking the Blackstone Entrepreneurs Network to the next level.
- As noted elsewhere in this memo, the University needs to invest in end-to-end support for commercializing IP from faculty research. Not only would this stimulate startups and venture investment within the region, it is crucial for increasing impact generally.
- Accelerate involvement of potential investors early in the idea development stage.
- Communicate and engage more effectively with alumni who can help with these goals.

**Q: How can we build and maintain an innovation ecosystem that supports both broad and deep engagement with the state?**

**Remains To Be Done — ENGAGEMENT WITH THE STATE**

*Recommendations*

- Enhance the benefits that the University provides to the state, and raise the perception of them through more effective communication.
- Create an economic development strategy in the proposed Office of Commercialization and Economic Development. This office will coordinate with senior leaders at UNC Chapel Hill to help build the innovation ecosystem. It will also play a key role in developing and articulating new strategies to work with (and for) people across the state. In every sense, it will raise the profile of UNC Chapel Hill as an engaged collaborator in building the State's future.
- Develop a data-driven strategy and approach to understand the true impact of UNC Chapel Hill and the UNC system on North Carolina.
- Create a dashboard to communicate Carolina's impact.

**D. FUNDING**

**Q: How will we adequately fund our research and its application, in light of declining federal and state dollars?**

**Remains To Be Done — FUNDING RESEARCH**

*Recommendations*

- Continue to support researchers as they seek research funding.
- Continue developing a comprehensive, diversified campaign with innovation and impact as top priorities.
- Become more engaged with venture philanthropy.

**Q: How can we engage the venture community in support of new ventures?**

**Remains To Be Done — VENTURE FUNDING**

*Recommendations*

Create a comprehensive strategy to engage the venture community and fund the full development cycle. As currently envisioned, key components of the strategy would be:

- Expand and coordinate (or consolidate) the University's Technology Development Grant programs to fund proof-of-concept studies across all schools and disciplines and then into investment. Many university technologies never reach the marketplace because no commercial relevance has been demonstrated which would attract both people and funding. These technologies need proof-of-concept or validation studies showing whether they do, in fact, have potential for becoming products or solutions that users would buy. Funding for such studies is extremely difficult to acquire, as these activities are beyond the scope of typical federal research grants, but too risky for investors or industry partners to fund. The proposed grants will range from \$25K to \$75K and will be awarded to projects on a competitive basis. Project applications will be evaluated by a panel of industry-relevant

experts. Beyond allocating funds, this panel will provide feedback to the OTD and the faculty member(s) as part of the review process.

- Create an SBIR Gap Fund. One of the greatest opportunities for unlocking university technologies is through Small Business Innovation Research (SBIR) grants if the timing issue can be addressed. Startups built around university innovations can seek SBIR funds to demonstrate feasibility (Phase I) and to develop the product (Phase II). However, many companies struggle because of the time gap of SBIR funding. A successful Phase I SBIR grant (usually of about \$250K) is followed by the submission and review of an application for a Phase II grant (about \$750K to \$1M). The time from completion of Phase I to the funding of Phase II can be 9 to 12 months. Many startups do not have the resources to continue to pay scientific staff or rent space during this period and waste valuable time waiting for the evaluation of the application. The proposed SBIR Gap Fund will bridge this gap for university startups. The funding will be on the order of \$100K to \$150K to help the company remain viable while it seeks additional funds. Stringent review will be critical to the wise investment of these funds.
- Connect to local VCs. The Blackstone Entrepreneurs Network was formed to activate connections among startups, successful entrepreneurs, and investors (or “dealmakers”). From University research on dealmakers, we know that North Carolina, and the Triangle region in particular, has investor activity that is not as maximized as it is in other locations due to a lack of connectivity. UNC Chapel Hill will need to intentionally build more ways of connecting local funders to University opportunities, including through local alumni.
- Connect to key hubs to create relationships with VCs and other constituents. Investment from outside North Carolina will be critical to UNC Chapel Hill’s ability to commercialize research and realize impact. Our undergraduate entrepreneurship programs and VCIC program for MBAs have established activities in Silicon Valley and New York City, exposing students to the investment communities in those hubs. However, the University needs to build more direct connections and opportunities for engaging investors from other regions with our most promising emerging companies. Additionally, alumni who are investors can be made aware of University IP and invited to provide advice. There have been discussions by some alumni about creating an alumni seed fund.
- Provide needed technical and administrative assistance. This strategy would include integrating startup services for faculty across the campus, including Carolina KickStart and the Concierge Service for Entrepreneurs, with leadership from the proposed Office of Commercialization and Economic Development (which would include OTD).
- Fully implement the Carolina Research Venture Fund.

### **Q: How does our innovation agenda relate to a University development campaign – and to other possible opportunities for funding?**

#### **Remains To Be Done — CAMPAIGN**

##### *Recommendations*

- As noted earlier in this report, assure that fundraising for innovation is a significant component of the next campaign.

- Work with Development and senior leaders (such as deans and directors) across campus to support their individual I&E fundraising goals.
- Explore various foundation models for supporting I&E work on university campuses.
- Continue conversations with alumni who have expressed interest in a venture philanthropy fund for the University.
- Create a central Innovation Fund.

## E. LEARNING AND COMMUNICATING

### Q: How can we continually learn from others while also leading in innovation and entrepreneurship?

#### Remains To Be Done — LEARNING AND LEADING

##### *Recommendations*

- After studying many commercialization operations, UNC Chapel Hill leaders stepped back to ask an intriguing question: How would the University commercialize IP if it were the first ever to attempt this type of function? The conversation was between experts on campus and those outside. Once the leaders settled on an approach, they again sought feedback from a wide audience to test assumptions and make modifications. The result is the proposed Office of Commercialization and Economic Development, which will give the University the opportunity to implement the new approach in an iterative process – taking steps, testing those steps and the assumptions behind them, making corrections, and then moving forward. Leaders will continue to call upon their wide network of external expert practitioners as well as the University’s own experts to develop improved practices that can inform the field.
- To fully realize the potential of the University’s innovation ecosystem, individual I&E spaces, programs, and curricular activities need the resources to adopt best practices and apply lessons learned.
- UNC Chapel Hill needs to carefully consider the pros and cons of a closely held separate structure for certain innovation activities.

### Q: What communication strategies are needed to bring the University community and the public on board with our innovation agenda – and to tell the story of impact?

#### Remains To Be Done — COMMUNICATION

##### *Recommendations*

Under the direction of the Vice Chancellor for Communications, a new communications team and structure (Carolina Compass) brings the opportunity for added resources, direction and collaboration around innovation communications. Some areas for action include:

- Formalize a system for effectively gathering and pooling information (content) on innovation and entrepreneurship activities at UNC Chapel Hill. This will require having a network of campus communicators team up with the central communications office.
- Create portals and pathways for faculty, students, and external audiences to learn about innovation and entrepreneurship programs specific to their needs, so they can find help quickly and easily. This work would be executed through the I&E Office.



- Create a national strategy for raising UNC Chapel Hill's profile as a thought leader in this area through key story placements, rankings, etc.
- Provide resources, tools, and guidance to stakeholders, e.g., faculty, staff, student innovation groups and working group members – so that they, in turn, can communicate consistently with audiences.
- Create an easy-to-understand dashboard of the University's economic impact on the State of North Carolina. This should include the direct impact of research, commercialization statistics, and other direct economic benefits.
- Develop and execute investor- and industry-specific communication strategies.
- Develop and execute alumni-specific communication strategies.
- Develop and execute a communication strategy for other key stakeholders.