

THE UNIVERSITY of NORTH CAROLINA at CHAPEL HILL

CAROLINA INNOVATION AND ENTREPRENEURSHIP (I&E) INNOVATION SPACES AND THEIR CONNECTIONS



CAROLINA INNOVATION AND ENTREPRENEURSHIP (I&E) INNOVATION SPACES AND THEIR CONNECTIONS Carolina: Where Innovators Thrive

Committee on UNC Chapel Hill Innovation Spaces, July 2014

Chairs: Judith Cone, Jean Elia. Members: Michelle Bolas, Andrew Kant, Jim Kitchen, Gordon Merklein, Mary Napier, Don Rose, Ted Zoller

INTRODUCTION

This report presents the near- and long-term requirements for an innovation and entrepreneurship ecosystem at UNC Chapel Hill where students, faculty and staff can imagine, design, build, and grow ventures to solve some of the world's most pressing challenges. It gives form to the vision of UNC as a vibrant place where creative people come and innovators thrive.

Physical spaces on a campus reflect a university's history, personality, priorities and future direction. They are both brought to life by and made relevant through the people that use them and the vibrant programs they house. Notable examples include the new Genome Sciences building, the FedEx Global Education Center, the Michael Hooker Research Center at the Gillings School of Global Public Health, the Institute for the Arts and Humanities at Hyde Hall, and the School of Government building. Even the quality of the athletic facilities on a campus reflects its institutional commitment to athletes and their pursuit of excellence.

Provost James Dean asked the Chancellor's Special Assistant for Innovation & Entrepreneurship, Judith Cone, to convene a committee to aggregate the needs, plans, and possible scenarios related to innovation space currently in place and under consideration on campus and in Chapel Hill. Concurrent to the work of this Committee, the Office of Innovation and Entrepreneurship has been involved with several other related activities on campus: the College of Arts & Sciences' recent strategic assessment of space; the campus-wide Maker Space Working Group co-chaired by Peter Mucha, Rich Superfine and Danianne Mizzy (report to be released later this month); the exploration of a potential collaboration with the Wexford Group on a life science innovation center to serve the campus; and discussions on the future of off-campus needs in Chapel Hill.

EXECUTIVE SUMMARY

To have a dynamic, fully-functioning I&E ecosystem, UNC Chapel Hill needs a series of spaces, woven together to form an integrated whole. For faculty and students, this integrated whole will support the full innovation process of imagine, design, build, and grow.

The Committee's recommendations are based on using a hub, node and spoke network model, anchored by an I&E headquarters hub and two primary nodes (downtown innovation center and a life science innovation center on south campus). The innovation hub and nodes form an "Innovation Corridor" (see Appendix A for map) from north to south campus.

Along the corridor are multidisciplinary spokes such as the Campus Y CUBE social innovation incubator and the Maker Space in Murray Hall currently scheduled to open in Fall 2015, as well as spokes whose use is specific to a school or unit, such as Computer Science's Entrepreneur's Lab in Sitterson Hall, Economics' Entrepreneurship Minor offices in Gardner Hall, the Reese News Lab at the Journalism School, and Applied Physical Sciences and Biomedical Engineering in Kenan Labs and other locations. Additional proposed spaces along this corridor could include an education startup incubator in Peabody Hall, a living and learning community for students dedicated to entrepreneurship, and part of the planned building in the Arts & Sciences science complex.

Some of the future spaces will be created through public-private partnerships, some by the Administration, and some by units. Once the overall concepts presented in this report are approved, detailed plans will follow for individual hubs, nodes, and spokes, and their formal and informal connections.

There are five specific space priorities to advance the I&E Agenda:

- 1. Applied Physical Sciences space, Biomedical Engineering space, and Maker Space on campus: In progress
- 2. Wet lab and office space for faculty spinouts on campus: Losing existing space in Genome Building, Spring 2015
- 3. Campus I&E Headquarters at Phillips Annex: Early discussions
- 4. Chapel Hill Innovation Center (CHIC) in Downtown Chapel Hill: Early discussions
- 5. Life sciences innovation center on south campus: Early discussions

Applied Physical Sciences, Biomedical engineering space, and Maker Space: The Chancellor, Provost, Dean of Arts & Sciences, and Senior Associate Dean of Sciences are in discussions to address these needs. Wet Lab: There is an immediate need to find replacement wet-lab and office space for faculty spinouts currently located at the Genome Building. Requirements are: ~2000 s.f. office/meeting, ~4000 s.f. lab with pre-established terms for facility use, as well as clear COI terms.

I&E Headquarters: Having a physical location near South building presents a strategic opportunity. It would serve as a front door for the campus where people can come for assistance, and donors can be inspired by the impact Carolina is having. It would also house the core I&E staff and the proposed new vice chancellor's offices (including OTD currently located off-campus at Europa).

Downtown Innovation Center: A proposed Chapel Hill Innovation Center (CHIC) in Downtown Chapel Hill would bridge the campus and community and become home to the alreadysuccessful accelerator, Launch Chapel Hill, and the popular 1789 Venture Lab. The current Launch Chapel Hill lease ends December 2015. In addition to event and ideation space, 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 group of people involved in creating Launch Chapel Hill and 1789 are actively engaged in these conversations.

Life Science Innovation Center: The majority of Carolina's commercialization activities come from the life sciences. To pursue these activities, faculty need access to wet-lab space, offices, and equipment. These resources need to be available to all faculty, even if they are administered by an academic unit. The School of Medicine plays a major role in supporting faculty in commercializing biomedical technologies through startup generation and is in early talks with the Wexford Group, a specialty real estate developer. Further, the SOM is planning to remodel Mary Ellen Jones (Appendix B).

-End Executive Summary-

CAMPUS PRIORITIES

Executing on a well-considered space plan is key to institutionalizing Innovation and Entrepreneurship on campus and ensuring that its efforts are world class, achieving impact on par with or exceeding other leading universities. It presents a thoughtful way to centralize some activities with nodes spread throughout the ecosystem, taking advantage of the benefits of diffusion while realizing the opportunities of integration.

Starting in 2010, the University of North Carolina at Chapel Hill made I&E a top priority and launched a strategic effort to strengthen an intentional culture of innovation across its campus. Innovation was defined as having three components: uniqueness, value, and successful implementation. All who participated in crafting the strategy – Board of Trustees, Chancellor, Provost, teams of faculty, staff, students, and donors – felt that two of the three components of the University's mission (research and teaching) were more developed than the third (service). These groups felt that the University has a responsibility to transfer knowledge whenever possible to address the most pressing issues facing the world and to serve the people of North Carolina through research, teaching, and **service**.

It is within this third part of the mission where scholarly activity is translated to benefit audiences outside the academic realm, and where innovation and entrepreneurship find a home. This commitment to service was expressed in the following vision statement:

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

To achieve that vision, Carolina must be a place where creative people come and innovators thrive.

Chancellor Carol Folt

Upon her arrival at Carolina and following her successful reorganization of entrepreneurship at Dartmouth College, Chancellor Folt articulated her vision for a thriving innovation and entrepreneurship ecosystem (a community of interacting organisms and their physical environment). She describes it in the following manner:

CAROLINA INNOVATION & ENTREPRENEURSHIP ECOSYSTEM



Carolina is a community of people (talent) interacting in a physical environment (support) with a supportive culture (climate). UNC's I&E ecosystem includes faculty, staff, students, external people serving in numerous capacities such as mentors, judges, speakers, and donors, and strategic partners such as the Town of Chapel Hill and Orange County Economic Development department. Interaction among these individuals occurs on and off campus, in classrooms, co-curricular spaces, accelerators, labs and offices, dorms, and at numerous events throughout the area.

Within the competitive landscape of higher education, universities that are well adapted to translational activities have an advantage: they attract and *keep* the best and brightest faculty, students and staff. Many faculty want to know that their intellectual output will be patented when appropriate and that they have the option to commercialize their research, as well as engage in other translational activities. Steve Farmer has reported the positive effects of UNC's reputation for entrepreneurship on recruiting students.

In pursuing the Innovation Agenda articulated in the *Innovation Roadmap*, the University is ensuring that the resources needed for translation are available. Just as UNC has invested in the space, tools, and equipment necessary to the research and teaching missions, now it is in the process of doing the same for the service mission.

BUILDING THE FUTURE: NEW INNOVATION SPACES

In the near future, the campus and community will have the types of spaces needed to translate ideas to impact and be on par with other leading universities who have already provided such spaces (see Appendix C for benchmarking report). For instance, in 2013 NC State brought its innovation and entrepreneurship support activities together in the Springboard Innovation Center (complemented by an online portal), giving faculty, students, and strategic partners from outside the university a front door for navigating the available programs and opportunities. Universities like Arizona, Michigan, the University of Virginia, NC State, and Purdue are investing in facilities for

commercial and social startup activity. Many campuses are offering multiple spaces to serve different audiences (typically wet-lab space is set aside from general startup activity) and some are working in coordination with the local community to provide transition space to support startups leaving the university, which serves the added role of helping non-university local entrepreneurs as well. To grow the pipeline, improve products and services, and ultimately increase societal impact, UNC must make similar investments.

The following is the **desired future state** for Carolina within the next five years:

UNC Chapel Hill is known across the country as a university that produces faculty, student, and staff innovations through its top-tier programs and facilities. Startups at UNC have a series of distinctive, well-connected spaces on and off campus that inspire and support a broad range of innovation and entrepreneurship integrated activities that are in line with University, town, and county economic development goals. The programs and facilities at UNC produce high-potential companies, impactful social ventures, and world-class artistic expression attracting the engagement of prominent alumni entrepreneurs, strategic partners, investors and others who can bring external expertise and resources to boost our innovation ecosystem. Economies in the region and the state are enhanced through this work and benefits accrue to UNC.

Goals for Innovation Spaces

- Ensure that spaces promote multidisciplinarity.
- Formalize existing and create new physical innovation nodes on and at the edge of campus that are well-connected through programming bridges and serve all parts of the innovation process: imagine, design, build, and grow ("Innovation Corridor").
- Streamline the Facilities Use Agreement process so that approvals can be obtained in one month or less once all paperwork (approval of department chair, shared equipment list, lab safety plan, insurance, COI review complete) is in place.
- Create a headquarters for Innovation and Entrepreneurship to serve as a front door for visitors to campus, for the Carolina Community to find the assistance they seek, and to house I&E leaders including OTD.
- Create multidisciplinary opportunities for more individuals to touch innovation and entrepreneurship activities through increased visibility and coordinated activities.
- Be accommodating and preserve faculty time by keeping wet-labs on campus for companies at the earliest stages of ideation and technology (idea) development. At some point a faculty spinout will need to migrate off campus, but incubating the idea on campus to better develop the technology leads to a greater chance of success in the future.

- Integrate with town and county economic development plans to keep more emerging companies local when appropriate for the venture.
- Bridge to community and regional startup activity, and provide better, local support for startups of all types.

CURRENT STATUS OF I&E SPACES

During the past four years, UNC Chapel Hill has grown the volume of innovation and entrepreneurship activities across its campus, and increased the number of individuals engaged to new levels. It has built a strong community of interacting people and programs in a physical environment. However, the physical environment has grown in a mostly unit-based manner and is not sufficient to meet the current and future needs.

Presently, many of the existing activities occur in spaces that were not designed to support the startup process (classrooms, student union), are already at maximum capacity (Launch Chapel Hill, CUBE), or are available only to one unit (Computer Science Entrepreneurs Lab, Entrepreneurship Minor offices). While strong programs have been built throughout the campus community, it was not until this year that the University started gaining momentum in integrating across many boundaries. The I&E Network (launched in Fall 2013) is a group of more than 100 people engaged directly in innovation work on campus who meet monthly to seek synergies and find ways to support each other's work. In another important move, the Frank Hawkins Kenan Institute of Private Enterprise, the Center for Entrepreneurial Studies, and Carolina KickStart recently signed an MOU to integrate their programs in entrepreneurship and to work in tandem with OTD.

It is our opinion that the Carolina I&E community is stronger than ever and on a path to even greater integration. A physical environment aligned to the formal and informal activities will be a tremendous boost, making the vision of a vibrant, multidisciplinary ecosystem a reality.

The physical space needs are influenced by the University's commitment to build world-class Applied Physical Sciences and Biomedical Engineering departments; strengthen commercialization, industry relations and economic development initiatives; secure adequate funding (for programs, grants for idea development, seed capital for venture creation); harness the alumni and parent networks for mentorship and connections; and establish UNC hubs at least in the Bay Area and NYC.

Diffused Creation of Space

People in departments across campus, affiliated with a wide range of programs and activities, have built and grown initiatives to bring ideas to life. The diffused nature of UNC's campus and the lack

of centralized support services for I&E activities resulted in the creation of positions and/or programs within individual areas to address the particular need of that school or unit (e.g. Public Health, Pharmacy, Medicine, Computer Science, Social Work, Libraries). These positions and programs have served the needs of faculty and students in those areas. Sometimes through self-determination, sometimes with intensive curricular and co-curricular support, often with a combination of all three, Carolina faculty, staff and students are becoming more open to and adept at translating knowledge to practical use. This type of local involvement by units is healthy for the ecosystem as long as there are strong hub and nodes connecting them. It is these central places that are missing.

To realize the potential of this innovation ecosystem, the Space Committee believes the following new spaces are necessary:

- Applied Physical Sciences, Biomedical Engineering, and Maker Space: The Chancellor, Provost, Dean of Arts & Sciences, and Senior Associate Dean of Sciences are in discussions to address these needs.
- 2) Faculty Wet-Lab and Office Space: There is an immediate need to find replacement wetlab and office space for faculty spinouts currently located at the Genome Building. Requirements are: ~2000 s.f. office/meeting, ~4000 s.f. lab with pre-established terms for facility use, as well as clear COI terms.
- 3) I&E Headquarters. A recurring challenge of UNC's dispersed I&E ecosystem is the lack of a central space where faculty, students, staff, and external supporters (entrepreneurs, investors, alumni) can come for information and orientation to the I&E offerings on campus. A strategically-located Innovation Hub will be a draw for innovators from across disciplines to find the resources they need. This space will include central offices for innovation program staff currently scattered on campus (OTD, I&E, Entrepreneurs in Residence), flexible co-working offices, access to conference rooms, and informal gathering areas. It will be a hub of activity, utilized by students, faculty, and I&E staff who currently have little opportunity and no space to collaborate on shared programming outside of the monthly I&E Network meetings.
- 4) **Downtown Chapel Hill Innovation Center (CHIC).** UNC will continue strengthening its relationship with Chapel Hill and Orange County, integrating with their economic development goals by providing opportunities for alumni entrepreneurs to keep their companies local. An innovation center with spaces to support the full range of venture formation from ideation through venture creation, offering affordable spaces for new companies as they grow and mature, will find an eager local audience. It will be a center for

hosting a full range of innovation and entrepreneurship activities and events that engage the campus as well as the community and the region. External investors and UNC supporters are already working on plans to identify a site and possible programming.

5) Life Science Innovation Center. The School of Medicine plays a major role in supporting faculty in commercializing biomedical technologies through startup generation and is in early talks with the Wexford Group, a specialty real estate developer. Further, the SOM is planning to remodel Mary Ellen Jones, and may include wet-lab spaces in that project. Carolina KickStart is a program of the CTSA-funded NC Translational and Clinical Science (TraCS) Institute that serves not just the School of Medicine but the entire campus. In addition to the program support offered through KickStart and others on campus, faculty need access to space and equipment dedicated to commercialization activities. This needs to be neutral space, available to all faculty, even if it is administered by an academic unit. As much as possible, UNC should preserve faculty time by keeping this space on campus at the earliest stages of ideation and technology (idea) development. Additionally, collaborative spaces where cross-disciplinary work happens may open up the potential for faculty to expose their ideas earlier to other entrepreneurial minds on campus, bringing new perspectives and possible team members. At some point a faculty spinout will need to migrate off campus, but incubating the idea on campus to better develop the technology leads to a greater chance of success in the future.

UNC is well on its way to being a leading university in translating important ideas into practical benefit and to fulfilling its vision to develop solutions for the world's most pressing challenges. The innovation and entrepreneurship activities that will make Carolina truly translational ingrain an entrepreneurial mindset and skillset in its students, faculty, and staff that give them a competitive advantage no matter what their field of study or future pursuit. UNC must continue to grow its supportive infrastructure for those who want to realize translation of their ideas into an innovative technology, product, service or program. The Committee on UNC Chapel Hill Innovation Spaces believes this will best be accomplished through a series of well-connected, distinctive spaces on and off campus that inspire and support a broad range of innovation and entrepreneurship activities. These spaces and their connected programs will produce high-potential companies, impactful social ventures, and world-class artistic expression attracting the engagement of prominent alumni entrepreneurs, regional entrepreneurs, investors and others who can bring external expertise and resources to boost our innovation ecosystem. Ultimately this increases Carolina's impact in North Carolina and around the world.

The remainder of the document provides greater detail.

DETAIL ON INNOVATION PROCESS, EXISTING SPACES

Chart of Innovation & Entrepreneurship Ecosystem

Below are listed current spaces on and off campus organized around the life cycle of taking an idea to implementation and the distinct but interrelated phases and physical spaces that support the different phases as well as the status of each. Further they are arranged by timeline.

	On Campus	Downtown Chanel Hill	Greater Chapel Hill	Region
EXISTING		Спарет ни		
Imagine & Design Ideation Maker Spaces	 Distributed spaces (curricular and co- curricular) 	• None	• None	• Scattered throughout
Build & Grow Startup/Spinouts Accelerators- Incubators	• The CUBE at the Campus Y	 Launch Chapel Hill 1789 Venture Lab 	• None	 Durham – American Tobacco and various accelerators Raleigh – HQ Raleigh, Warehouse, others
Build & Grow Spinouts Web Labs	 Genome Building for Faculty Wet Labs and Office Space (temporary) Ad-hoc incubation through FUAs (currently ~15 active) 	• None	• None	 RTP several wet lab spaces for lease or sub- lease RTP – First Flight Venture Center
Central Leadership	• South Building	•	 OTD offices at Europa 	•
NEAR TERM – PLANS	S IN PLACE			4
Imagine & Design Ideation Curricular/co- curricular Maker Spaces	 Applied Physical Science and BME Maker Space (Murray) E-minor renovation to main offices (Gardner) 	• None	• None	• None
FUTURE				
Imagine & Design; Build & Grow Innovation Hubs Combining all stages in a space	 Life Science Innovation Center possibly at Odum Village Central Campus, Part of new Science Building I&E Headquarters 	Chapel Hill Innovation Center (CHIC)	• Carolina North	 Hammer, Jim Cain, Translational Medicine Institute, RTP (Campus reps: Terry Magnuson, Judith Cone) RTP Reinvention
Central Leadership	 South Bldg; I&E Headquarters 	•	•	•

Innovation Phases and Space Needs

Imagine and Design: Creativity, Ideation, Design, and Making. Ideation and creativity happen both in and outside of the classroom, in settings designed to promote the exchange of different viewpoints and experiences. Ideation spaces tend to be flexible, with access to simple ideagenerating tools like whiteboards or technical equipment like smartboards, and an ability to pull in others via videoconference or other technology. Standard classrooms may be a starting point, but expanding opportunities for creativity to thrive means expanding both informal areas where innovators can gather over a cup of coffee and an idea, and formal spaces for experiential learning by doing (i.e. maker spaces). Student teams like Carolina Creates, the Chancellors Student Innovation Team, TEDxUNC, UNC's Design for America Team, and others have no formal spaces to meet and develop their work on campus. Likewise, the growing number of hackathons and startup weekends that UNC students are developing and hosting struggle for lack of home-base spaces to hold these events. These activities partner with numerous departments and organizations on campus, and draw entrepreneurs from across the region and outside of North Carolina.

The principles and practices of design are critical to the innovation process. Yet UNC Chapel Hill's historic lack of a formal design program leaves our students and faculty at a disadvantage in this area. Departments like Biomedical Engineering and Environmental Engineering teach design methodologies that are helpful to their students and faculty in moving ideas into tangible, physical form. However, that teaching is not widely available to the majority of the campus.

Curricular and co-curricular strategies are underway to bring design into our innovation and entrepreneurship teaching and programs. Through the proposed Maker Space in the new Department of Applied Physical Sciences, faculty will have an opportunity to instruct using a wide range of tools and equipment (3-D printers, laser cutters, wood and metal shop tools, electronics). Through workshops and co-curricular programs, students will be able to move quickly from ideation to prototype, utilizing design methodologies that will be taught in the space. Within the curriculum, the Entrepreneurship Minor and the Business School are re-working their entrepreneurship sequences to include more time on teaching ideation and design methodologies. And the I&E Network has come together to offer facilitated opportunities throughout the academic year for students and faculty to practice these methodologies through popular cocurricular startup programs such as the Carolina Challenge, hackathons, innovation challenges, and the activities during Global Entrepreneurship Week.

For faculty, ideation can happen within one's domain area – in a lab or with colleagues – expressed through the development of a new cutting-edge technology or a new approach to a field of study. The amount of support for entrepreneurial faculty varies by department and school, but for those who are so inclined such support largely comes once an idea has taken shape and there is a

significant enough commitment on the part of the faculty member to incorporate the company with founders and seek initial grant funding. The typical progression for a faculty life-science startup begins with incorporation of the company, usually with several founders. An SBIR Phase 1 grant may be secured at this point, with temporary lab and office space needed to conduct feasibility studies. If a Phase 2 SBIR grant is secured, the company will require a longer lease for space to develop the technologies (1-2 years), offices, and equipment.

Collaborative spaces where cross-disciplinary work happens may open up the potential for faculty to expose their ideas earlier to other entrepreneurial minds on campus, bringing new perspectives and possible team members. Centers for ideation could also host opportunities for faculty to "reverse pitch" their expertise in a particular area to entrepreneurial students, who may develop solutions to the challenges posed using the deep font of available research as a starting point.

Build: Idea development. Faculty and students who want to explore whether or not an emerging technology or an idea could be viable as a nonprofit or for-profit venture have numerous options on campus. These options happen in the classroom, through curricular programs like the entrepreneurship minor, courses available at the business school, or entrepreneurship courses that have been developed within disciplines like public health, exercise and sport science, medicine, and the humanities.

In addition to curricular options, programming associated with the University's three formal venture incubators – Launch Chapel Hill, 1789 Venture Lab, and the CUBE – offer individuals or teams at this stage access to workshops that help develop an entrepreneurial mindset and skillset. 1789 also takes on teams that are in earlier stages of development as "members" who receive co-working space, access to meeting space, and access to mentors/service providers through their membership.

Build: Venture formation/development. Students who have been working on an idea for a venture, perhaps formally through a course, and who want to move forward have several on-campus options. Since UNC lays no claim to student-developed technology, typically students are free to pursue their interest independent of the University's Office of Technology Development. Students who want to formalize their nonprofit or for-profit ventures have access to business development programs, incubators, and accelerators. The Center for Entrepreneurial Studies' signature for-credit program *Launching the Venture* (LTV) is offered to current UNC students, faculty, alumni and staff and is a mod-based curriculum running through the academic year. Students can also apply to Launch Chapel Hill, the joint University, Town, and County incubator located in the community; to 1789 Venture Lab, which caters specifically to students and is located at the edge of campus on Franklin Street; or the Campus Y CUBE, which caters to socially-oriented nonprofit, for-profit or blended ventures.

Faculty who want to proceed with venture development, particularly faculty working with a University-owned technology that they want to commercialize, have access to several of those programs as well including LTV and Launch Chapel Hill (although there are far fewer faculty in these programs). Faculty working on a technology can also access the new Concierge Service for Entrepreneurs in the Kenan Institute, which offers patent landscaping and market evaluation, along with business development in the early stage of company formation. Faculty at this stage may participate in the Carolina KickStart program and/or work directly with OTD representatives on the legal aspects of their venture development.

Grow: Venture support. Once a company has passed the early-stage phase (has received investment dollars, has customers, has moved to later-stage grant funding) and is ready to move off campus, or a recent graduate wants to continue venture development of an idea started while he/she was at UNC, options diminish quickly. Launch Chapel Hill, a joint project of the Town of Chapel Hill, Orange County Economic Development, UNC-Chapel Hill and a university donor, opened in May 2012 to support recent graduates, alumni, and community members who are starting a company that does not require wet-lab space. Launch is a business accelerator program, with a typical stay of six months after which time those companies must move out. Currently, neither UNC nor Chapel Hill has subsidized space for companies beyond this point, although Launch has been active in trying to identify and negotiate reasonable rents for its recent graduating companies to stay local.

Likewise for life-science faculty who continue to need well-equipped wet-lab bench space, in addition to the amenities that a co-working space would offer, there are no viable options off campus in Chapel Hill. Several spaces in the RTP are available to these companies, such as First Flight Ventures. See Appendix D for a complete list of off-campus space available for faculty lease in Orange/Chatham County and RTP. A future study needs to be undertaken to better understand the need for wet-lab space off campus in order to develop a model based on historical numbers for tenant flow. The interest of private developers in creating off-campus space in Orange County should be explored further, with a long-term integrated plan for moving companies from UNC innovation spaces to Orange County-based wet-lab spaces if desirable.

Fit with the UNC Campus Master Plan

The UNC Campus Master Plan guides growth for new development on campus. With limited opportunities for expansion, most space identified for future development will replace older, less efficient and/or functionally obsolete buildings. The Campus Master Plan identifies approximately 1,000,000 square feet of new development opportunities on campus, mostly in infill locations scattered throughout campus. Because of the limited growth opportunities and parking

constraints on main campus, the Carolina North Master Plan was adopted in 2009 to accommodate future University growth. While no buildings have been built at Carolina North, the plan initially allows for 3,000,000 square feet of academic and commercial development.

Funding Models for Capital Projects

For on-campus capital projects, funding for new development is either appropriated from the State Legislature (appropriated funds) or derived from receipts (self-liquidating funds). Given state budget constraints over the past several years, it is anticipated that future development on campus will be funded predominantly by receipts and donor gifts.

An alternative method for on-campus development is public-private partnership. In 2008, a Special Use Permit was approved by the Town of Chapel Hill to allow for an 85,000-square-foot Innovation Center to be built at Carolina North by a third-party developer. The goal of the Innovation Center was to streamline the development and to accelerate the commercialization of technology and life-sciences opportunities carried out at UNC. The project was ultimately cancelled by the developer due to the economic recession. There are several national third-party developers who have created successful public-private partnerships for accelerator and life-science facilities with research universities, including Wexford/Biomed Realty Trust, Longfellow, and Alexandria Realty Trust.

Off campus, space has traditionally been leased from existing property owners and, to a lesser extent, purchased by UNC (or a UNC-related entity) for University-related use. Funding for offcampus space is typically provided by overhead receipts or departmental funds. Most space occupied off campus is in older class-C office space, which is reflective of the existing inventory of office properties adjacent to campus and the desire of units leasing space to be near campus. Currently, UNC leases approximately 400,000 square feet of office space in Chapel Hill, with the majority of the space occupied by grant-funded research centers and institutes.

Typical Needs of Faculty and Student Startups

The chart summarizes typical faculty and student space needs specific to building and growing ventures.

A Typical Faculty Startups Needs:

	On-campus	Off-campus
Science-based, lab-intensive	Single or shared office	1-3 offices
	Shared conference room	Shared/own conference
	• 100 to 500 s.f. lab space	room
	Shared capital equipment	• 500 to 1500 s.f. lab space
	 Access to core labs/PI 	 Shared capital equipment
	2-3 year lease	• 3-5 year lease
Social, tech, etc.	 Shared office/meeting 	1-2 offices
	area	 Project/meeting areas
	Shared conference room	Shared/own conference
	High-speed internet	room
	Videoconferencing	High-speed internet
	Access to students	Videoconferencing
	• 1-2 year lease	• 2-3 year lease

A Typical Student Startup Needs

	On-campus	Off-campus
Science-based, lab intensive	Most often working with faculty in lab. May need co-working, meeting space	n/a
Social, Tech, etc.	 Shared office/meeting areas Shared conference room High-speed internet Videoconferencing Access to mentors Access to workshops, trainings 	 Shared workspace 1-2 offices Project/meeting areas Shared conference room High-speed internet Videoconferencing Flexible lease (month to month, sliding scale)

DETAIL ON EXISTING SPACE

In 2009, the only space on campus institutionally supported for startups was the former Carolina Launch Pad program at RENCI which housed four companies at a time. Since the release of the *Innovation Roadmap* in 2010 the following spaces have come online to support faculty and student ventures.

Launch Chapel Hill – Opened May, 2013

Type – Student, faculty, alumni, community, edge of campus

Capacity: Approx. 12-15 ventures (depending on size of teams).

Program: 22-week program designed to increase the growth potential of high-impact startup and early-stage ventures. Launch Chapel Hill aims to provide driven entrepreneurs with street-smart business workshops, individual, mentorship, entrepreneurs-in-residence, partner resources, business services, and collaborative office space in the heart of Chapel Hill.

Funding: Three-year co-investment from Chancellor's Office (\$300K), Town of Chapel Hill (\$150K), Orange County (\$150K) and the Becker Family (\$300K). In-kind donations from Triangle Office Equipment and 3 Birds Marketing.

Reporting Relationship: Launch's part-time program manager Dina Mills is supervised by Ted Zoller and part of the Center for Entrepreneurial Studies team

Benefits: Bridges gap in support for recent UNC alums, keeps them in the Chapel Hill community. Great town/gown relationship.

Limitations: Capacity is limited and space is challenging for events. Lease ends in 2014 – will have to find new space.

KickStart Labs – Opened December 2012

Type: Faculty commercialization - scientific

Capacity: 10-12 startups

Program: Houses early-stage life-science companies spinning out of UNC, most built around a UNC-owned technology. These companies have very little capital, need close association with campus know-how (faculty) and need wet-lab space for conducting their work. Thus, off-campus space like Launch Chapel Hill is not adequate.

Funding: Carolina KickStart through NIH funding

Reporting Relationship: Don Rose, Carolina KickStart, and NC TraCS Institute

Benefits: UNC has the ability to house startups on campus using a Facility Use Agreement (FUA) usually in the faculty founder's lab. FUA's have been a good stop-gap solution but have limitations: (a) poor oversight and management of activities (e.g. who pays for broken equipment), (b) poor optics (perception from the outside; N&O), and (c) no interactions and synergies between companies. Dedicated incubation space, as demonstrated with KickStart Labs, provides these advantages.

Limitations: Control of the space in the Genome Science Building transfers from SOM to College of Arts and Science in April 2015. All indications are that the KickStart Labs will need to move. No appropriate future space has been identified.

Campus Y CUBE Social Innovation Incubator – Opened December 2012

Type: Student, faculty startup non-scientific commercial, social, artistic

Capacity: 6 ventures plus ability to host workshops, events

Program: The CUBE is a space for social entrepreneurs to put their ideas for solving the world's greatest problems into practice. It is an experiential learning lab where young social entrepreneurs can test ideas, take risks, experience accountability, evaluate impact and incorporate feedback into their social enterprise. Housed at the Campus Y, teams have 24/7 access to a co-working space equipped with technology. And the CUBE is a one-stop shop for know-how. Social entrepreneurs across UNC-Chapel Hill can access seed capital opportunities, one-on-one mentoring, pro-bono support services, feedback from entrepreneurial experts, and capacity-building workshops covering everything from legal liability to effective marketing to entrepreneurial finance.

Funding: Investment from Chancellor's I&E office for position; private fundraising for remainder. **Reporting Relationship:** Student Affairs

Benefits: Supports university-wide social innovation and public service community. Leading in cocurricular entrepreneurial skill development and workshops open to the campus.

Limitations: Programs, space at capacity. Growth upside is high without resources to capitalize.

1789 – Opened May 2013

Type: Student non-scientific commercial, social, artistic, edge of campus

Capacity: 40+ ventures currently working out of the space, plus ability to host workshops and events for up to 100 people.

Program: 1789 is a venture lab for UNC students and recent graduates located in the heart of downtown Chapel Hill. 1789's mission is to create impact on the entrepreneurial community by providing incubation space, mentoring and educational programming for young people working on a startup. 1789 offers a large working space, a 20-seat venture bar, conference rooms, wireless internet, and free hosting.

Funding: Currently funded by alum Jim Kitchen. Planning group is considering formal relationship with University for financial and programming support

Benefits: Popular space for entrepreneurs on Franklin Street, bridge to the community. **Limitations:** Budget

Carolina Union HUB

Capacity: Approx. 50 in flexible work spaces; no permanent workspace
Program: High-tech collaborative space, for meetings and group projects
Reporting Relationship: Crystal King, Carolina Union Director
Benefits: Accessible, popular workspace in the heart of campus.
Limitations: Mostly used as a general study space, not dedicated. No programming or staff support.

Entrepreneurs Lounge CS (Computer Science)

Capacity: Meeting space for up to 15; no permanent workspace

Program: Space for young CS entrepreneurs to hold meetings and brainstorm ideas. So far, six start-up companies have been founded by students and faculty from the department. Among them is Morphormics, which develops image analysis software systems for image-guided medical procedures like radiation treatment.

Reporting Relationship: Michael Fern, Assistant Dean for Administration and Entrepreneurship **Benefits:** Provides space for groups to meet around a common theme.

Limitations: Not a hackerspace (with equipment). No dedicated workspace for teams to utilize.

Kenan Institute Reading Room

Capacity: Meeting space for up to 3 teams of 4-6 people; no permanent workspace **Program:** Co-working space for the Concierge Service for Entrepreneurs and others in the Kenan Institute and Kenan-Flagler Business School to hold meetings, work with Concierge companies and host small events. To date, 6 clients have been served by the Concierge teams.

Reporting Relationship: Judith Cone, Interim Director of the Kenan Institute of Private Enterprise. **Benefits:** Provides much needed co-working space at the Kenan Center.

Limitations: Space can only be used on a temporary basis; no dedicated space.



MARY ELLEN JONES BUILDING RENOVATION AND PLAZA ADDITION

Project Summary:

Located centrally between the UNC Hospitals and School of Medicine, the Mary Ellen Jones building has served the University since 1979 as a research facility. With systems at the end of their useful life and a plan configuration that no longer supports research efficiently, a renovation of Mary Ellen Jones offers the opportunity to add up to 125,000 square feet of modern laboratories.

To become a safe, efficient and effective research environment, Mary Ellen Jones requires a complete replacement of the Mechanical and Electrical systems and a wholesale renovation of its laboratory floors. A reconfigured floor plan will support efficient and flexible laboratories directly connected to the support spaces and collaboration spaces so critical to modern research. Space currently occupied by outdated mechanical systems will be captured to increase the useable floor area by 3000 sf per floor.

The project includes fully renovating eight laboratory floors, including the installation of flexible laboratory casework and equipment to allow for a variety of potential research initiatives. Two of these floors will be dedicated to the Department of Biomedical Engineering. The 3rd floor will be developed, at least partially, as an office and conference floor and provide a public connection between each of the building ends.

In addition to improvements to the interior, extensive improvements are proposed for the exterior of the building. Currently, window sills at 4'-6" above the floor inhibit views and daylighting. The removal of the exterior precast panels and windows, and replacement with a glazed curtainwall system, will dramatically improve both the interior environment and the exterior appearance of the building. Drawing inspiration from the nearby Imaging Research Building, the new Mary Ellen Jones will knit together this new campus precinct.

In realizing UNC's Master Plan, a pedestrian "spine" has developed from the Genetic Medicine Building to the south, across the Dental School Bridge and along Columbia to the School of Medicine academic buildings. Currently Mary Ellen Jones is disconnected from this "spine" by a complex and active loading area; its main entrance is on the opposite side at West Drive. A new elevated plaza is proposed to connect the 3rd floor of Mary Ellen Jones to the walkway at Thurston Bowles and complete the Master Plan vision for this precinct. Improvements will be made to the Manning streetscape and to the plaza area and main entrance to the building on West Drive. Together they will dramatically change pedestrian access and use of the Mary Ellen Jones building.



Innovation Space Benchmarks

March 18, 2014 Researched & compiled by intern Stacy Gilbert, Research Services

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Southwest Michigan Innovation Center: http://www.kazoosmic.com/

Opened	2003	
Size	69,000 square-foot: 58,000 wet lab and	
	11,000 office space	
Centralized or	Decentralized: Located in the Western	
Decentralized	Michigan University Business Technology	
location(s) on campus?	Research Park in Kalamazoo, MI, but in	
Where on campus?	proximity to Western Michigan University	
Center or edge?		
Type of user, such as	Users are professionals, originally populated	http://mibiz.com/spe
undergrads, graduate	with experienced professionals laid off by	<u>cials/kalamazoo-</u>
students, faculty?	Pfizer	battle-
Separate spaces in the		creek/item/20793-
same building, group		southwest-michigan-
spaces?		innovation-center-
		looks-ahead-to-next-
		<u>decade</u>
Students served	N/A	
Makerspaces and/or	No	
hackerspaces?		
Wet lab space?	Yes: 58,000 square-foot	
Do they have curriculum	No	
as part of the center		
Funding	Private and public-sector backing:	http://mibiz.com/spe
	-\$15.1+ million in private and public money	<u>cials/kalamazoo-</u>
	to develop the buildings in 2003 and	<u>battle-</u>
	addition in 2009.	<u>creek/item/20793-</u>
	 Biggest financial support from \$5 million 	southwest-michigan-
	grant from the state, a \$2.7 million loan	innovation-center-
	from the Kalamazoo Community	looks-ahead-to-next-
	Foundation, a \$1.35 million grant from	<u>decade</u>
	Kalamazoo County, and a \$1.25 million loan	
	from the City of Kalamazoo. Private	
	contributors put another \$3 million into the	
	center.	

Arizona State University SkySong:

https://skysong.asu.edu/

Not to be confused with SkySong Innovation Center

Opened	2008	
Size	1.2 million-square-foot	
Centralized or Decentralized location(s) on campus? Where on campus? Center or edge?	3 miles away from campus	
Type of user, such as undergrads, graduate students, faculty? Separate spaces in the same building, group spaces?	-Edson Student Entrepreneur Initiative contest where students compete for \$20,000 each in funding, mentorship, and training to develop their idea. -Furnace Accelerator competition open to anyone in the world (but a focus on alumni in Arizona), but the business needs to be developed in Arizona. The accelerator is to "help turn research by ASU professors and students into new companies."	http://www.azcentral .com/business/article s/20120815asu- skysong-hits- entrepreneurial-high- notes-in-4-years.html http://www.statepre ss.com/2012/03/07/n ew-skysong- accelerator-turns- research-to-business/ http://scorephoenix. org/2013/01/score- team-helps-asu- student-innovators/
Students served	-Law-school students act as consultants -Furnace Accelerator is promoted towards	
	alumni -Edson competition for students	
Makerspaces and/or hackerspaces?	No	
Wet lab space?	No	
Do they have curriculum as part of the center?	No	
Funding	The Edson Student Entrepreneur Initiative has been made possible by an investment of \$5.4 million from Orin Edson to the Arizona State University Foundation	http://universityinno vation.org/wiki/Arizo na State University

Not to be confused with SkySong Innovation Center

University of Virginia i.Lab:

http://ilabatuva.org/

Opened	2010	
Size	4,000 square-foot	http://news.virginia.e du/content/dardens- new-ilab-provides- headquarters-design- thinking
Centralized or Decentralized location(s) on campus? Where on campus? Center or edge?	Located on the edge of campus near the Law School and Business School	
Type of user, such as undergrads, graduate students, faculty? Separate spaces in the same building, group spaces?	 -It is open to the entire community: Diversity is important -Mix of Darden MBA students, members of the community, and undergraduates 	http://www.c- ville.com/idea-inc- dardens-ilab- incubator-opens-its- doors-to- entrepreneurs-from- uva-and-beyond/
Students served	Primarily MBA students and undergraduates, but open to everyone	
Makerspaces and/or hackerspaces?	Studio with workbenches and power tools, crafting materials, design lab tools	
Wet lab space?	No	
Do they have curriculum as part of the center	-"Cross-disciplinary 'design thinking' classes" and i.Lab sponsored classes - Phase 1: an accelerator phase which is ongoing during the summer months and Phase 2: "an academic year phase which allows a deeper dive into the subject matter addressed in the summer program."	http://www.c- ville.com/idea-inc- dardens-ilab- incubator-opens-its- doors-to- entrepreneurs-from- uva-and-beyond/ http://inthecapital.str eetwise.co/all- series/uvas-i-lab- incubator-class-of- 2013-meet-the-local- startups-with-the- greatest-potential/
Funding	-In 2011, W.L. Lyons Brown (MBA '87) issued a 90-day matching challenge to meet the \$1 million goal to build an incubator.	http://ilabatuva.org/ about history.shtml

-The Batten Institute was established with gifts now totaling more than \$100 million from U.Va. alumnus Frank Batten Sr.	http://www.newswis e.com/articles/the-u- va-i-lab-at-darden- brings-together- entrepreneurs-from- the-university-and- charlottesville-area-
	<u>charlottesville-area-</u> <u>communities</u>

University of Virginia Cobb Hall, Licensing & Ventures Group part of UVA Innovation:

http://innovation.virginia.edu/about/lvg

Opened		
Size		
Centralized or	On the edge of the university's campus, and	
Decentralized	on the school's hospital campus.	
location(s) on campus?		
Where on campus?		
Center or edge?		
Type of user, such as	For start-up companies that come from the	
undergrads, graduate	UVA School of Medicine.	
students, faculty?		
Separate spaces in the		
same building, group		
spaces?		
Students served		
Makerspaces and/or		
hackerspaces?		
Wet lab space?	Possibly; Space is also shared with clinical	http://www.medicine
	departments, like the department of	.virginia.edu/clinical/
	neurology which has 7 labs in Cobb Hall.	departments/neurolo
		<u>gy/our-</u>
		facilities/outpatient/i
		<u>ndex-page</u>
Do they have curriculum	No	
as part of the center?		
Funding		

Little information about Cobb Hall can be found. It is a property that houses other UVA labs. Space available for entrepreneurs is controlled by the Licensing & Ventures Group part of UVA Innovation

University of Virginia OpenGrounds: http://opengrounds.virginia.edu/

http://opengrounds.mgi	<u>na.eda/</u>	
Opened	2012	
Size		
Centralized or	On the edge of the university's campus, and	
Decentralized	on the school's hospital campus.	
location(s) on campus?		
Where on campus?		
Center or edge?		
Type of user, such as	OpenGrounds Corner Studio is open to	
undergrads, graduate	students, faculty, and the public	
students, faculty?		
Separate spaces in the		
same building, group		
spaces?		
Students served	-Collaborates with the Undergraduate	http://opengrounds.v
	Research Network with Network Events, a	irginia.edu/people/st
	series of seminars called Open Table	udents/urn/
	Discussion, and a Fireside Chats series	
	where students and a faculty member	
	discuss the faculty's research interests	
	-Provides Art and Environmental Action	
	scholarships to 4 students in 2014	
	-Challenges and scholarships are open to	
	undergraduates graduates and postdocs	
	-Faculty occasionally bring their classes in	
	for sessions	
Makersnaces and/or	Interactive technology and white boards	
hackerspaces?	interactive teerinology and write boards	
Wet lab space?	No	
Do they have curriculum	No	
as part of the center?		
Funding	-Art and Environmental Action scholarships	http://opengrounds.v
	are funded by The Jefferson Trust (\$10,000)	irginia.edu/changing-
	-Vonage sponsored an OpenGrounds	views/student-
	Challenge in 2012 (\$25,000 total in prize	scholars/
	money, most likely all from Vonage)	
	-Hearst Business Media sponsored an	http://opengrounds.v
	OpenGrounds Challenge in 2013 (\$25 000	irginia edu/neonle/na
	total in nrize money most likely all from	rtnorc/
	voliage)	

University of Arizona InnovationSpace: http://innovationspace.asu.edu/

IIIIp.//IIIIovationspace.as	<u>su.euu/</u>	1
Opened	2004	
Size		
Centralized or	Think it is located within the Herberger	
Decentralized	Institute for Design and Arts, which is	
location(s) on campus?	towards the edge of campus, but near major	
Where on campus?	academic buildings.	
Center or edge?		
Type of user, such as	Main user is students who receive help from	http://innovationspa
undergrads, graduate	a core teaching faculty from industrial	<u>ce.asu.edu/about/fac</u>
students, faculty?	design, visual communication design,	<u>ulty.php</u>
Separate spaces in the	business, and engineering programs.	
same building, group	Students also receive financial support and	http://innovationspa
spaces?	real-world mentorship from university and	<u>ce.asu.edu/about/par</u>
	business partners	<u>tners.php</u>
Students served	Senior-level undergraduate students in	
	industrial design, graphic design, business,	
	and engineering, who are working on senior	
	capstone projects and honors thesis.	
Makerspaces and/or	Possibly makerspace, unsure if the lab and	
hackerspaces?	equipment in a video on the website are	
	part of InnovationSpace	
Wet lab space?	No	
Do they have curriculum	-Sustainability curriculum	http://innovationspa
as part of the center?	-Students complete a real-world product-	<u>ce.asu.edu/students/</u>
	development project	
Funding	-Grants	http://researchmatte
	-Sponsors from corporations like Herman	<u>rs.asu.edu/stories/lab</u>
	Miller, Intel, Procter & Gamble, and Dow-	or-love-5-years-
	Corning	innovationspace-
		<u>1371</u>
In 2006, BusinessWeek named InnovationSpace one of the top 35 design programs in North		

America.

Utah State University Innovation Campus: http://innovationcampus.usu.edu/

nttp://infovationcumpus		
Opened	1986	
Size	-450,000 square-foot of office and lab space	
	-18 buildings, 50 companies, 2,100	
	employees	
	-Expanding the complex to more than 150	
	acres (2012)	
Centralized or	On the edge of campus, nearly 2 miles from	
Decentralized	main campus	
location(s) on campus?		
Where on campus?		
Center or edge?		
Type of user, such as	Student employment available via USU's	
undergrads, graduate	student employment	
students, faculty?		
Separate spaces in the		
same building, group		
spaces?		
Students served	Students can work on some projects,	
	although it is unclear if it is undergraduates	
	or graduates and what projects they are	
	working on	
Makerspaces and/or	No	
hackerspaces?		
Wet lab space?	-Possible the USTAR BioInnovations Building	http://www.innovati
	has a wet lab (it has "the most advanced life	onutah.com/blog/ust
	sciences laboratory in the state")	ar-bioinnovations-
	-New Bioproducts Scale-Up Facility will have	building-on-usus-
	equipment to produce large volumes of	innovation-campus-
	spider silk protein	nears-completion/
		http://www.cachevall
		eydaily.com/news/lo
		cal/article 2b977ed6
		<u>-2be6-11e3-9adb-</u>
		001a4bcf6878.html
Do they have curriculum	No	
as part of the center?		

Funding	-Each company on the campus brings in	http://livability.com/l
	funding: Space Dynamic Laboratory (a	ogan/ut/schools/utah
	company) brings in \$49 million/year in	-state-university-
	funding (2012)	innovation-campus-
	-Companies and professors apply for grants	gets-bigger-and-
	-Innovation Center is part of the Utah	<u>better</u>
	Science Technology and Research initiative	
	(USTAR). USTAR BioInnovations Building is	http://ustar.usu.edu/
	funded by state legislature	htm/bioinnovations-
		<u>center</u>
		http://news.hjnews.c
		om/allaccess/article
		f66de69a-2bc3-11e3-
		aabf-
		0019bb2963f4.html

Opened	2008 -Artisan and Fabrication Lab opened in 2009	
Size	-"Seven spaces" and one class room in the engineering building -Artisan and Fabrication Lab: 4,000 square- foot	
Centralized or Decentralized location(s) on campus? Where on campus? Center or edge?	Located on the edge of campus in the Neil Armstrong Hall of Engineering	
Type of user, such as undergrads, graduate students, faculty? Separate spaces in the same building, group spaces?	-Main use of space is for first-year engineering students -During summer, houses programs for K-12 administrators, counselors, and teachers, as well as students in the Purdue's Women in Engineering and Minority Engineering Program camps and the Honor's Program Seminar for Top Engineering Prospects -Artisan and Fabrication Lab is open to faculty, staff, and student entrepreneurs campus-wide	https://engineering.p urdue.edu/ENE/Hom epageFeatures/News /IdeastoInnovationLe arningLabOpens http://www.purdue.e du/newsroom/releas es/2013/Q4/lab-to- provide-purdue- entrepreneurs-space- to-refine-concepts,- build- prototypes.html
Students served	1,700 first-year engineering students, learning hands-on design work	
Makerspaces and/or hackerspaces?	Design studio, innovation studio, prototyping studio, artisan and fabrication laboratories (AFL), and demonstration studio	
Wet lab space?	No	
Do they have curriculum as part of the center?	-Classes are designed around the National Academy of Engineering's 14 grand challenges -New classes in the lab replace first-year lecture class	https://engineering.p urdue.edu/Engr/Abo utUs/News/Publicati ons/EngineeringImpa ct/2009 1/COE Issue /I2ILearningLabRedefi nesClassroomEnviron ment

Purdue University Ideas to Innovation (i2i) Learning Laboratory: https://engineering.purdue.edu/ENE/Academics/i2ilab

		https://news.uns.pur
		due.edu/x/2009a/09
		0616Reed-
		RhoadsLab.html
Funding	"A portion of the \$4.3 million needed to	https://news.uns.pur
	build the I2I Lab came from Stephen D.	<u>due.edu/x/2008b/08</u>
	Bechtel Jr., chairman emeritus of the	1112ReedRhoadsLab.
	Bechtel Group Inc. of San Francisco."	<u>html</u>

Durduo	University	Agricultural	Innovation	Contor
ruiuue	University	Agricultural	IIIIOvation	center.

https://engineering.purdue.edu/ABE/AboutUs/Photos/ADMAIC

Opened	2012	
Size	27,000 square-foot	
Centralized or Decentralized location(s) on campus? Where on campus? Center or edge?	Central location on campus	
Type of user, such as undergrads, graduate students, faculty? Separate spaces in the same building, group spaces?	Laboratory and classrooms for students	
Students served	Undergraduates and graduates	
Makerspaces and/or hackerspaces?	Machine shop	
Wet lab space?	No	
Do they have curriculum as part of the center?	No	
Funding	-Cost \$4.2 million to build -\$1.5 million contribution from Archer Daniels Midland Co.	http://www.purdue.e du/newsroom/gener al/2012/120118Cord ovaADM.html

While called an "Innovation Center," it sounds like more like a classroom and lab space for students.

UNC-Charlotte Partnership, Outreach, and Research to Accelerate Learning (PORTAL):

https://enance.cuu/bush		
Opened	2014	
Size	96,000 square-foot	
Centralized or	Edge of campus	
Decentralized		
location(s) on campus?		
Where on campus?		
Center or edge?		
Type of user, such as	-Promotes entrepreneurship and	http://www.bizjourn
undergrads, graduate	collaboration with private industry partners	als.com/charlotte/ne
students, faculty?	-Houses Ventureprise, a regional business	<u>ws/2014/02/18/unc-</u>
Separate spaces in the	incubator that has relationships with faculty,	charlotte-completes-
same building, group	students, and industry partners and	<u>35m-portal-</u>
spaces?	innovators. Also a student business	<u>building.html?page=a</u>
	incubator to support 10 companies.	<u>II</u>
	-Offers office space and meeting rooms for	
	start-ups	
Students served	Student incubator with Ventureprise	
Makerspaces and/or	No	
hackerspaces?		
Wet lab space?	No	
Do they have curriculum	No	
as part of the center?		
Funding	-\$35 million building	http://www.bizjourn
	-Facility has about \$35 million in research	als.com/charlotte/ne
	grants and contracts annually	<u>ws/2014/02/18/unc-</u>
		charlotte-completes-
		<u>35m-portal-</u>
		<u>building.html?page=a</u>

https://cri.uncc.edu/business-partners/portal-0

Opened	2013	
Size	-983 square-foot co-working space for start-	http://portcitydaily.c
	ups	om/2013/09/06/cent
	-10,550 square-foot office space for growing	er-for-innovation-
	firms	entrepreneurship-
	 -1,300 square-foot event space 	opens-with-five-
		companies-on-board/
Centralized or	Located right off campus, not near central	
Decentralized	campus	
location(s) on campus?		
Where on campus?		
Center or edge?		
Type of user, such as	Serves and has co-working space available	
undergrads, graduate	for the community, students, faculty, and	
students, faculty?	staff	
Separate spaces in the		
same building, group		
spaces?		
Students served	Serves students by providing work-space	http://www.uncw.ed
	and promotes the Undergraduate	<u>u/cie/ebd.html</u>
	Entrepreneurship Program on its website,	
	but students are not a huge focus	
Makerspaces and/or	No	
hackerspaces?		
Wet lab space?	No	
Do they have curriculum	No	
as part of the center?		
Funding	-Co-working space for entrepreneurs are	<u>http://portcitydaily.c</u>
	\$100/month, unless they are UNCW	<u>om/2013/08/16/unc</u>
	students, faculty, or staff who can rent for	w-entrepreneurship-
	free (but must show their company is	center-poised-to-
	growing to continue to stay there)	make-wilmington-an-
	-Each company raises own capital	innovation-beacon-
	-City of Wilmington included a grant of	director-says/
	\$70,000 for CIE to help out local	
	entrepreneurs	

UNC-Wilmington Center for Innovation and Entrepreneurship (CIE): http://www.uncw.edu/cie/index.html

Off Campus Space for Faculty Orange/Chatham County

Jse

Name	City	County	Sales Price	Lease Price	Square Former Use Feet
<u>101 Connor Drive</u>	Chapel Hill	Orange		\$20.00	5,697 Office
<u>122 US Highway 70</u>	Hillsborough	Orange	\$450,000		7,700 Flex - office/warehouse
260 S. Churton Street	Hillsborough	Orange		\$12.00	5,000 Office
346 Elizabeth Brady Road	Hillsborough	Orange		\$4.50	25,400 Distribution/warehouse/office
400 Meadowmont Village Circle	Chapel Hill	Orange		\$24.95	13,893 Class A office space
600 Meadowlands Drive	Hillsborough	Orange	\$695,000		12,000 Business office/warehouse
<u>605 Eastowne (sale)</u>	Chapel Hill	Orange	\$1,800,000		11,167 Office
7110 E. Washington Street	Mebane	Orange	\$7,750,000	\$2.75	383,500 manufacturing distribution
<u> Chapel Hill 40 - Boyd Hall - Suite 200</u>	Chapel Hill	Orange		\$19.75	10,864 New construction
<u> Chapel Hill 40 - Boyd Hall - Suite 300</u>	Chapel Hill	Orange		\$19.75	5,547 Office
<u> Chapel Hill 40 - Dawson Hall - 2nd floor</u>	Chapel Hill	Orange		\$22.00	12,601 Class A office space
<u> Chapel Hill 40 - Dawson Hall - 3rd floor</u>	Chapel Hill	Orange		\$22.00	18,112 Class A office space
Cosgrove Hill Offices	Chapel Hill	Orange		\$21.00	21,000 Class A Office space
East Ridge Executive Offices - 2nd floor	Chapel Hill	Orange		\$18.50	6,417 Class A office space
East Ridge Executive Offices-1st floor	Chapel Hill	Orange		\$18.50	5,430 Class A office space
<u>Europa Center - Suite 101</u>	Chapel Hill	Orange		\$24.00	14,024 Class A office space
Hillsborough Business Center-Fabric Warehouse	Hillsborough	Orange		\$7.00	5,704 Flex
Hillsborough Business Center-Suite #25	Hillsborough	Orange		\$5.50	6,500 Industrial
<u>Mebane Industrial</u>	Mebane	Orange	\$1,850,000		51,400 Manufacturing
<u>158 Credle St</u>	Pittsboro	Chatham	3)	/r lease negotiable	Wet Lab

220 Dominion Drive, Ste B	Morrisville	Wake		\$6.50	11,500 Flex
4024 Stirrup Creek	Durham	Durham		\$18.50	81,370 Research, Office, Manufacturing
<u>4102 S. Miami Boulevard</u>	Durham	Durham	\$5,800,000	\$3.85	131,000 Manufacturing
<u>430 Davis Drive</u>	Durham	Durham		\$23.95	48,331 Vacant
CentreGreen Four	Cary	Wake		\$22.95	99,735 Office/Lab
Exchange Place	Durham	Durham	¢\$	\$11.50	32,856 Office/R&D
Former Grifols	Raleigh	Wake	\$0	\$1.00	76,000 R&D Facility
<u>North Tech Business Park</u>	Clayton	Johnston		\$16.62	9,600 Research/Warehouse
<u>One Park Drive</u>	RTP	Durham		\$22.00	69,395 New Building
Research Tri-Center North V-Suite D	Durham	Durham		\$4.00	45,000 Industrial
<u>ResearchTriCenter North V - Suite C</u>	Durham	Durham		\$3.95	59,984 Manufacturing
<u>Southport Business Park - Bldg IX, Ste 100</u>	Morrisville	Wake		\$9.50	17,522 Office/flex
<u>Southport Business Park - Bldg XIV - Ste 1300 Sublease</u>	Morriville	Wake		\$12.50	6,330 Office
TBC Place I	Durham	Durham		\$12.50	38,768 Flex
Tri-Center South XIV	Durham	Durham		\$17.95	30,013 New Office Space
TriCenter South I	Durham	Durham		\$4.95	29,947 Manufacturing
Winchester Place	Durham	Durham		\$21.75	22,961 New
2445 South Alston	Durham	Durham	\$3,500,000	\$13.75	Wet Lab
4238 Technology Dr	Durham	Durham		\$18	6,500 Wet Lab/Office/Storage
4401 Research Commons 79 TW Alexander Dr	Durham	Durham			2,000 Wet Lab/Office
<u>99 TW Alexander Dr</u>	Durham	Durham		\$6	27,000 Wet lab/Office/Storage
<u>Alexandria Innovation Center</u>	Durham	Durham	L	iegotiable	48,236 Wet lab/Office/Storage
BD Bioventures 21 Davis Dr	Durham	Durham			flexible Incubation wet lab – focused areas
<u>BioPharma Properties 4134 S. Alston</u>	Durham	Durham		\$16-25	8 office lab modules
<u>Enthalpy Analytical</u>	Durham	Durham		\$14.93	20,000 4 suites office lab
Passport 1015 Passport Way	Cary	Wake		\$19.95	3,500
<u>Keystone Davis Dr</u>	Durham	Durham		\$10.50	12 building flexible office/lab/manufacturing
Park Research Center 104 TW Alexander	Durham	Durham	\$15	\$19.95 lab 6.95 office	flexible office/lab

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