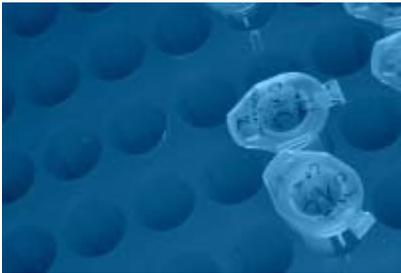


# UNC Innovation Development and Transfer Initiative: Phase I Report

February 4, 2011



A briefing on the progress of campus leaders to make UNC institutions the “go to” places for outside entities to partner with innovative minds and find solutions to the world’s toughest problems.



## UNC Innovation Development and Transfer Initiative: Phase I Report

In September 2009, the University of North Carolina (UNC) and IBM released the report and plan entitled: *Innovate Collaborate Accelerate: The UNC Vision for Innovation and Technology Development*<sup>1</sup>. The report was developed by UNC leaders and their private and public sector partners upon examining innovation development and transfer practices in UNC and identifying the essential progress needed to further the economic and social impact of the University. It contained six recommendations, two in each of three broad categories for action. Each campus formed an implementation team, comprised of a dozen or so individuals in various campus leadership roles, to directly address the recommendations of the report.

Several strategies were utilized over the course of the yearlong implementation initiative to ensure success:

- External partners and perspectives, including IBM and many others, were included in meaningful ways throughout the process, including the early strategic work groups and as valued members on campus teams.
- Campus implementation teams included the many stakeholders involved in innovation development and transfer.
- Five pilot campuses were identified to be leaders, committed at the highest levels to pursuing comprehensive change and to sharing their efforts and transferable knowledge and resources with all UNC institutions. Other campuses, especially NC State, also exhibited clear leadership throughout the initiative. The pilot campuses, selected to represent the diverse activities and resourcing of UNC institutions in innovation development and transfer, were
  - East Carolina University
  - UNC Chapel Hill
  - UNC Charlotte
  - UNC Greensboro
  - Western Carolina University
- Each campus context was valued and contributed to the understanding and interpretation of the overall initiative objectives.
- Communication and sharing of ideas, whether written or via meetings, occurred early and often.



A year of work has passed since Phase I was launched. This briefing provides an update on the progress made, as well as a look ahead to Phase II and our continued efforts to make UNC institutions the “go to” places to partner in innovation and commercialization and to encourage campuses to share and implement effective practices.

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<sup>1</sup> For full report, see [http://www.northcarolina.edu/research/initiatives/tech\\_transfer/Innovate-Collaborate-Accelerate.pdf](http://www.northcarolina.edu/research/initiatives/tech_transfer/Innovate-Collaborate-Accelerate.pdf)

Category of Activity	Accomplishments at a Glance
Excel in Strategic Research Areas	<ul style="list-style-type: none"> <li>• Campus strengths identified</li> <li>• REACH NC expertise portal piloted</li> <li>• Logic model drafted to help campuses set goals and targets</li> </ul>
Support Innovative Individuals	<ul style="list-style-type: none"> <li>• Tenure and promotion policies reviewed and revised</li> <li>• Entrepreneurship supports assessed for gaps</li> </ul>
Model Inspired, Efficient Technology Development Processes	<ul style="list-style-type: none"> <li>• Corporate relations teams formed or hires made</li> <li>• Legal affairs toolbox created</li> <li>• New tools launched, such as Carolina Express License, NC State’s Springboard Portal, and streamlined agreement templates at several campuses</li> </ul>

## I. Excel in Strategic Research Areas

The premise behind the recommendations in this category of activity was simple – improve our understanding and communication of existing and emerging strengths in research and intellectual property, and seek to combine those strengths in advantageous ways for the University and the state.

### Accomplishments:

- All campuses identified distinct and campus-specific target areas for expanded innovation development and transfer activities. Some examples include:
  - Human performance, nanoscience education, music and technology, renewable energy, and arts and culture - **Appalachian State University**
  - Nano-enabled research, personalized health, creative and performing arts, and improving learning opportunities for all - **UNC Greensboro**
  - Marine biotechnology, memory research, facial recognition and biometrics, film production and creative writing - **UNC Wilmington**
  - Health, medical and biomedical innovation, coastal communities, ecosystems and processes, demand driven professional programs and delivery systems, and arts and design - **East Carolina University**
  - **UNC Charlotte** chose to focus on new licensing and deal models in their areas of established strength, including informatics and security, precision manufacturing, optoelectronics, energy production and information systems, bioinformatics and biomedical research, and motorsports and automotive engineering.
- **REACH NC** (Research, Engagement and Capabilities Hub of North Carolina), a searchable portal of university research expertise and capabilities, was completed in beta version with involvement from **NC State, UNC Chapel Hill** and the **Renaissance Computing Institute (RENCI)**. REACH NC users can search for and view the expertise profiles of individuals or entire units as potential collaborators in research, problem solving, and economic development. Profiles currently are generated using publications, sponsored research awards, intellectual property, and course descriptions. REACH NC is positioned to help North Carolina attract new business, retain existing ones, and enhance effectiveness and competitiveness of its institutions.
- A logic model (Appendix 1) was drafted to represent the numerous inputs, activities, outputs, outcomes and impacts associated with UNC institutions’ strategic areas of focus and overall

innovation development and transfer efforts. The logic model is intended to be comprehensive yet still allow the flexibility to establish unique trajectories and to set and meet innovation goals.

### Phase II Priorities:

- Set campus goals in accordance with the logic model (Appendix 1) to move forward in their identified target areas.
  - Strategy: Each campus will identify, pursue and track progress on goals, including inputs, activities, and/or measurable results, related to their strategic areas of emphasis.
- Fund and expand REACH NC to include all UNC institutions and possibly other partners in the state.
  - Strategies: Secure the one-time and ongoing funding needed; work with campus administration to link REACH NC data collection opportunities with other critical institutional reporting needs (like annual activity reporting); set data preparation and collection standards; conduct QA/QC on profiles, and launch.



## II. Support Innovative Individuals

Campuses responded to the two recommendations in this category by evaluating their programs, activities and policies that support their entrepreneurial faculty, staff and students.

### Accomplishments:

- Campuses assessed their reappointment, promotion and tenure (RPT) policies and practices in relation to recognition of entrepreneurial activity. At **UNC Greensboro** and **UNC Wilmington**, specific language was added to RPT policies that will enable consideration and recognition of this activity<sup>2</sup>.
- Campuses assessed their entrepreneurial support activities and at the same time, the Economic Transformation Council completed a comprehensive overview of entrepreneurship courses and curriculum across UNC. As a result of this process, for example, **Appalachian State** realized their supports for entrepreneurial faculty did not match the level of activities and programming to support entrepreneurial students, and they are working to introduce new opportunities for faculty. Similarly, **NC State's** comprehensive gap analysis revealed needs in education and training for faculty and postdoctoral researchers. NC State has since worked with the **Small Business and Technology Development Center (SBTDC)** to offer their first Technology Commercialization for Academic Researchers workshop on October 18, 2010. **UNC Greensboro** and **NC A&T State University** have partnered with SBTDC to host similar workshops.
- **East Carolina University** implemented several efforts to grow and support a culture of innovation on the campus, including the establishment of a proof-of-concept fund and

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<sup>2</sup> See UNCG promotion and tenure guidelines at <http://provost.uncg.edu/documents/personnel/PTguidesUNCG.pdf>

technology transfer fellowship. The campus also changed facility and program infrastructures to increase the visibility of innovation and entrepreneurship on campus. Initiatives include launching the Innovation Design Lab and Innovation Design Academy and proposing a multidisciplinary certificate in innovation and entrepreneurship.

- **UNC Charlotte** piloted an entrepreneur-in-resident program, established a prototype fund to help researchers make working models of their inventions, and created a certificate program in entrepreneurship that allows all undergraduate students to complete a four-course sequence through the Belk College of Business.
- **Western Carolina University** and **Winston Salem State University** surveyed their faculty to gain baseline understandings of their knowledge and experiences with innovation development and transfer activities. The campuses used these insights to identify entrepreneurial faculty for additional involvement, trainings and support.

#### Phase II Priorities:

- Translate supportive RPT policy language into measurable, documentable practices.
  - Strategy: Hold dialogue(s) facilitated by campuses that are leading the way in recognizing this activity in RPT decisions. Task forces may be formed.
- Explore with campus entrepreneurship centers the opportunity to develop and execute comprehensive entrepreneurship goals and objectives.
  - Strategy: Convene entrepreneurship center directors at some regular interval to share strategies and best practices and to discover and pursue common priorities.
- Work with the Governor's Innovation Council and others on retention strategies to keep our most talented, entrepreneurial and innovative graduates in North Carolina.
  - Strategy: Compile baseline data on employment in North Carolina of students with undergraduate or graduate Science, Technology, Engineering and Mathematics (STEM) degrees, for use in developing strategies to increase in-state employment of these graduates.

### III. Model Inspired, Efficient Technology Development Processes

The third category of recommended change required that campus teams embrace a more marketing- and relationship-focused approach to innovation development and transfer.

#### Accomplishments

- Several campuses, including **UNC Charlotte**, **Appalachian State**, and **UNC Greensboro**, initiated or re-instituted their internal corporate relations teams and/or external advisory relationships. **UNC Chapel Hill** convened an Innovation Circle of forty national leaders and friends of the university. They advised the Chancellor by creating a roadmap for the strategic use of the institution's energy and resources in order to accelerate innovation and Carolina's contributions to our global society<sup>3</sup>.

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<sup>3</sup> For full report, see [http://innovation.unc.edu/The\\_Roadmap\\_to\\_Success/The\\_Roadmap\\_to\\_Success.html](http://innovation.unc.edu/The_Roadmap_to_Success/The_Roadmap_to_Success.html)

- **NC State** launched its Springboard Partnership Portal in September 2010, a network that provides point of entry for new researchers and new partners in research and discovery<sup>4</sup>.
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- **UNC Charlotte** piloted a new licensing model that favors capital investment and job creation in North Carolina over royalties to the university.
  - **UNC General Administration** and **NC State University** were co-applicants, along with 32 other partners, on a proposal to the US Economic Development Administration's (EDA) i6 Challenge. While not funded, the proposal was one of the top five proposals from the Atlanta region selected for national review and is now serving as a roadmap for how to meet critical needs across the system. Proposed activities included the addition of Fellows to boost innovation and commercialization activities at UNC institutions across the state, new resources for invention and market assessment, and cooperative structures that leverage existing UNC and statewide resources to support UNC institutions that lack infrastructure for commercialization and new venture formation (Appendix 2).
  - **UNC General Administration** staff in Legal Affairs developed guidance documents to launch a living "toolbox" of resources that will help educate campuses on complex issues and provide tools that should result in simpler and faster negotiations<sup>5</sup>. An institutional conflict of interest policy has also been drafted. David Kappos, Under Secretary of Commerce for Intellectual Property and Director of the United States Patent and Trademark Office (USPTO), publicly praised these leading efforts at the Fall 2010 meeting of the UIDP. The Carolina Express License, developed at **UNC Chapel Hill** and launched in December 2009, eases the start-up negotiation process and has gained national attention and a groundbreaking approach<sup>6</sup>. **UNC Charlotte, NC State**, and **UNC Greensboro** also created templates or revised agreements in order to shorten negotiation periods.
  - **UNC General Administration, UNC Charlotte** and the **Charlotte Research Institute**, and **IBM** co-hosted the 11<sup>th</sup> meeting of the **University-Industry Demonstration Partnership (UIDP)** in Charlotte, NC from October 4-6, 2010. UIDP is convened by the National Academies to advance industry-academy partnerships that provide significant benefits to both parties. The meeting allowed several UNC institutions to highlight their accomplishments for a national audience of university and industry leaders.

## Phase II Priorities

- Pursue the ideas agreed upon in our EDA i6 Challenge proposal.
  - **Strategies:** Convene task force to prioritize i6 Challenge goals and seek funding to meet the infrastructure, human capital and technological needs of campuses that lack innovation development and transfer infrastructure; pursue opportunities to address long-term gap funding needs.

<sup>4</sup> Visit the Springboard Partnership Portal at <http://www.springboard.ncsu.edu/>

<sup>5</sup> See the toolbox at <http://www.northcarolina.edu/legal/sm/techtransfer.htm>

<sup>6</sup> See the Carolina Express License and supporting documents at [http://otd.unc.edu/starting\\_a\\_company.php](http://otd.unc.edu/starting_a_company.php)

- Establish system-wide uniform interpretations of compliance regulations and laws that affect the creation and transfer of innovation.
  - Strategy: Work through sponsored programs council, legal counsel, and other stakeholders to create and add references to the existing “toolbox.”
- Create a model to track private use in facilities financed by tax-exempt bonds.
  - Strategy: Task force to be formed.
- Implement the Institutional Conflict of Interest policy endorsed by the Board of Governors.
  - Strategy: Work with campus stakeholders to finalize the existing draft for approval.
- Continue addressing issues that require cross-campus clarity for improved innovation relationships.
  - Strategy: Hold dialogue(s) facilitated by campuses that are leading the way in simplifying contract language, establishing successful fee for service models, and other areas. Task forces may be formed.

## Conclusion

Taken as a whole, our universities made individual and collective strides in their strategic thinking, programming, policies, and practices in innovation development and transfer over the yearlong initiative. The next steps are to support each campus in ways that foster their building upon these early successes. Cross-campus dialogues will continue around key issues, such as the hard work of translating supportive tenure policy into measurable, documentable practices that reward innovation development and transfer. Contract language, fee for service models, conflict of interest policies, and other aspects of innovation relationships and partnerships will continue to be improved and shared among institutions. And, the basic infrastructure, human capital, and technological needs of several campuses must also be addressed as a priority. Although much work remains, UNC institutions are poised to continue moving ahead together, responding to the citizens’ desires for their public universities to make a real and real-time difference in the economic transformation of the state.



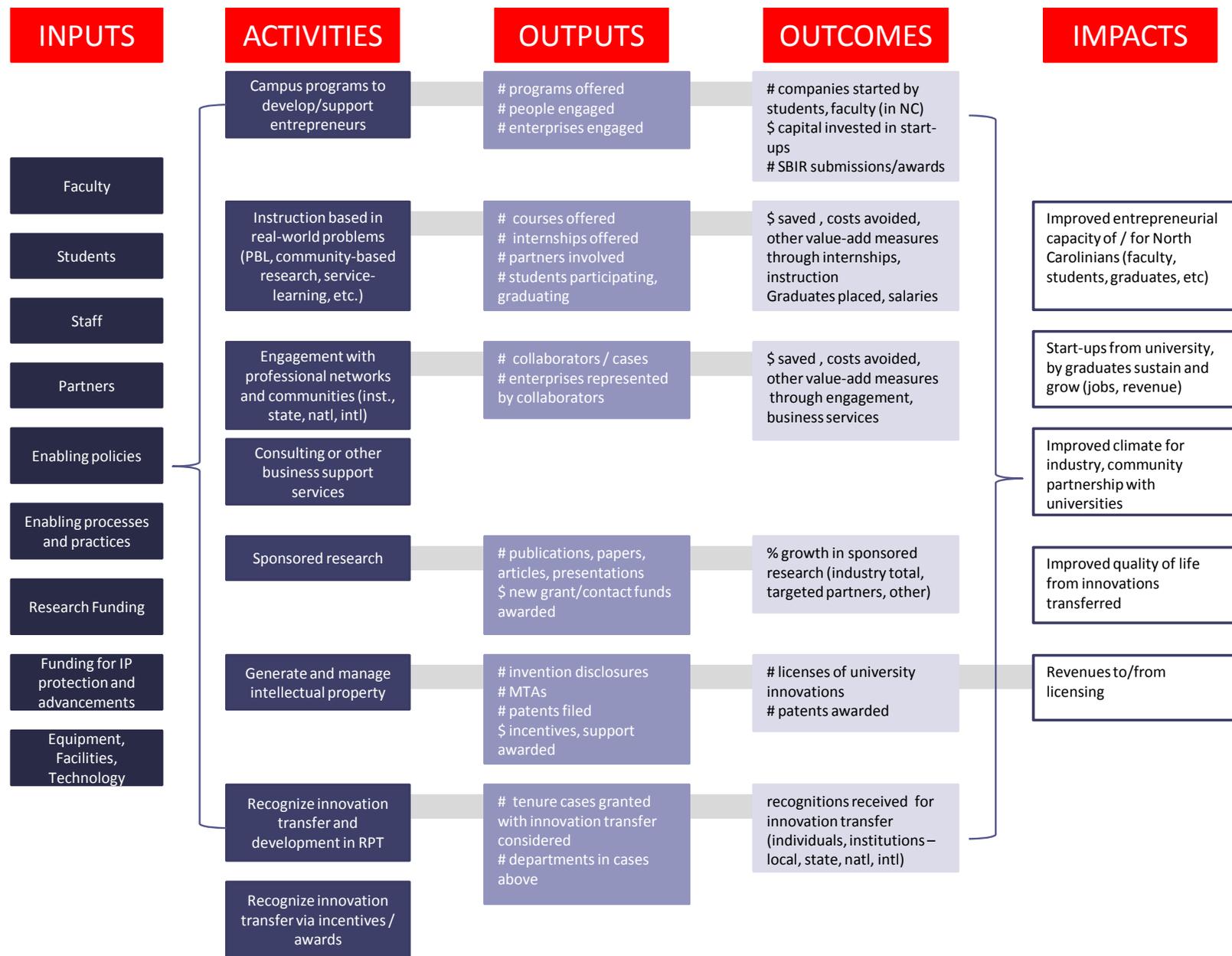
Leaders from UNC and IBM present outcomes of the innovation initiative for a national audience attending the 11<sup>th</sup> University-Industry Demonstration Partnership (UIDP) meeting in Charlotte, NC. Left to right: (1) Jerry McGuire of UNC Greensboro, (2) Courtney Thornton of UNC General Administration and Terri Lomax of NC State listen as Steve Mosier of UNC Charlotte addresses UIDP, (3) Cathy Innes of UNC Chapel Hill, (4) Lou Masi of IBM. October 2010.

## Phase II Timeline at a Glance: Building on Momentum

The timeline below, while tentative, conveys the overall strategy for making progress in Phase II. In Phase I, cross-functional campus teams identified and tackled issues at the campus level while at the same time raising the profile of several common issues that deserve systemwide attention and discussion. In Phase II, a series of critical conversations on these aspects of innovation development and transfer will be held in conjunction with regular group meetings of UNC administrative and staff leadership. Campus teams will remain in place and working in concert with the Phase II summits to ensure broad-based understanding and implementation of new ideas, processes and policies.

Target Timing	Task	Responsibility
October 2010 and ongoing	REACH NC expansion steps	GA, with campus assistance
February 4, 2011	Release Phase II Plans to Campuses	GA to set up all-campus team meeting
March 2011	Campus goals established and submitted	Campus teams
March 2011	Task force on i6 Challenge next steps convened	GA, Task Force members
April 2011	Innovation Summit in conjunction with CAO Meeting, on RPT policy and practice	GA, campus leads TBD
April 2011	Innovation Summit in conjunction with SPARC Meeting, on simplified contract language	GA, campus leads TBD
April 2011	Innovation Summit in conjunction with Economic Transformation Council Meeting, on shared entrepreneurship center goals	GA, campus leads TBD
TBD	Innovation Summit in conjunction with Legal Counsel meeting, on institutional conflict of interest and other policy	GA, campus leads TBD
Fall 2011	All-Campus Summit on Phase II Progress	GA to arrange all-campus team meeting
November/ December 2011	Phase II Assessment of Progress and Report released	GA

## Appendix 1. Innovation Development and Transfer Logic Model (Draft)



## Appendix 2. Goals and Activities submitted to the EDA i6 Challenge



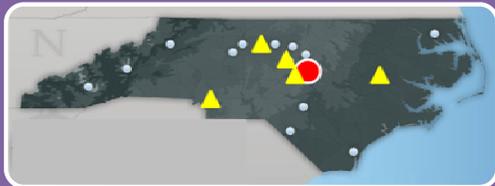
### Goal 1: Accelerate Discovery

- **Objective:** Provide context-appropriate resources (people, processes) to help campuses identify commercial opportunities more rapidly while building a culture for innovation and commercialization
- **Strategies:** Engage 7 ACTION Fellows with Campus Champions, facilitate activities with campus innovators, implement web-based tool to manage disclosures and intellectual property actions
- **Outcomes:** Inventory of commercial opportunities in development or ready for assessment (Goal 2), tools and practices implemented, culture for innovation commercialization strengthened



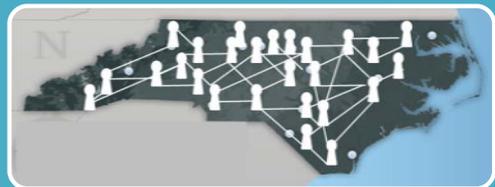
### Goal 2: Accelerate Assessment

- **Objective:** Assess quickly the commercial viability of innovations identified by the ACTION Fellows
- **Strategies:** Resource the TEC program at NC State University to conduct assessments for campuses that either lack the capacity or could benefit from additional assistance. TEC leadership will also serve as the coordinating hub for activities of the ACTION Fellows (Goal 1), the UNC Opportunity Council (Goal 3), and the NC New Venture Network (Goal 4)
- **Outcomes:** Innovations assessed for commercial potential, with recommendations for the UNC Opportunity Council (Goal 3)



### Goal 3: Accelerate Protection and Promotion

- **Objective:** Create a decision-making body that can take action on commercialization needs of UNC institutions that lack this infrastructure and capacity, including ability to offer financial support for patent fees or proof of concept activities
- **Strategies:** Leverage existing commercialization resources in the UNC Opportunity Council and offer Graduated Incentive Funds
- **Outcomes:** Cases with commercial potential are reviewed at least quarterly and either “adopted” for action by a Council representative or referred to the NC New Venture Network (Goal 4), gap funds provided to accelerate commercial viability



### Goal 4: Accelerate New Venture Formation

- **Objective:** Align in-state resources for start-ups and ready them for quick action in support of university start-up opportunities
- **Strategy:** Biannually convene the NC New Venture Network and offer seed funds to start-ups
- **Outcomes:** Network of statewide entrepreneurial resources strengthened, start-up opportunities from UNC institutions quickly reviewed by diverse pool of statewide experts and supported with seed funding if appropriate