North Carolina Biotechnology Center 2017-18 Activities and Accomplishments

NCBiotech's vision is North Carolina: a global life science leader. The numbers continue to show the impact of the Biotech Center's activities. A 2016-17 report by TEConomy showed $86 billion in economic activity can be traced back to the state's 700+ life science companies. The sector directly employs 63,000 people, which grows to 260,000 total jobs in North Carolina's economy. This activity generates $2.2 billion in state and local revenues.

The Biotech Center continues our unique approach to technology-based economic development. The strategy pillars are build community, develop partner networks, invest to catalyze innovation and company growth, and communicate the state's global life science brand. These pillars work to develop technologies, companies, sectors and regions for the benefit of North Carolina. The following document organizes NCBiotech's many activities in these development areas, adding a section of activities that develop and promote the state's life science ecosystem.

Company and Technology Development

NCBiotech engages in a range of activities with multiple partners to move commercializable technology from idea to market. This includes our company recruitment, small-company support and technology development activities. NCBiotech invested a total of $6,257,700 in fiscal year 2018, the majority of which supports technology development, company creation and company growth.

Fueling Company Recruitment and Expansion

The Center's recruitment team continues to work closely with the Economic Development Partnership of North Carolina (EDPNC) and the NC Department of Commerce on projects with new potential for job creation and investment. At the time of this report, 28 projects representing more than 5,500 jobs and $812M in potential investment are being recruited.

During the FY2017 and FY2018 years, NCBiotech's efforts helped recruit or expand 25 companies. This will create 3,080 jobs and $580M in investment in North Carolina. Highlights of those announcements:

- AveXis chose Durham for a $55,600,000 investment and 200 jobs.
- bluebird bio chose Durham for an $11,500,000 investment and 50 jobs.
- Corning Life Sciences chose Edgecombe County for an $86,000,000 investment and 111 jobs and Durham County for a $189,000,000 investment and 317 jobs.
- Fresenius Kabi chose Wilson for a $100,000,000 investment and 445 jobs.
- INC Research (now Syneos Health) chose Wake for a $37,900,000 investment and 550 jobs.
- Pfizer chose Lee County for a $100,000,000 investment and 40 jobs.

In addition to providing industry-specific expertise and resources, NCBiotech also provides an Economic Development Award for project-related investments that provide sustainable benefit to the company and community. The awards up to $100,000 are linked to job creation and retention milestones. Three EDA awards totaling $300,000 were paid this year.

Catalyzing Company Start-up and Growth

Taking products from lab to market requires innovative technology, talented entrepreneurs, timely access to capital, critical connections, and a supportive environment. NCBiotech's Emerging Company Development (ECD) program seeks out start-up companies with promising technologies and talented teams, provides funding to meet key business and product development milestones, and provides services to help the companies grow.

This comprehensive approach helps innovative life science companies in North Carolina attract the follow-on investment that leads to significant job growth. Since program inception, portfolio companies have received an average of $105 in follow-on funding from external sources for every $1 in business funding from NCBiotech. This has led to the creation of more than 4,164 North Carolina jobs within these portfolio companies, and many more in support companies.

Funding applications are reviewed by ECD's team of business and science experts, often with input from external experts, and are awarded by a subcommittee of NCBiotech's board of directors. Award totals for the 2017-18 fiscal year were:

- Small Business Research Loan (10) $2,400,000
- Strategic Growth Loan (2) $1,000,000

Other key activities of the ECD team include:

- Mentoring – In FY2018, the ECD team had 320 start-up consultation meetings with NC life science entrepreneurs. We provided advice on product research and development, business development and strategy, commercialization strategy, investor connections and financial projections.

- Investor introductions – ECD develops relationships with investors and connects promising North Carolina life science companies to them. Besides making 67 investor introductions, the ECD team also had 83 discussions with in-state and out-of-state investors to recruit capital to NC. So far, 52 life science investment groups have made investments in NC.

- Partner introductions - The ECD team develops relationships with technology scouts from large companies, then organizes strategic partnering meetings to match company needs with North Carolina technology. The ECD group hosted Astellas Pharmaceuticals on November 28, 2017. On March 1, 2018, six representatives of Johnson & Johnson Innovations visited the Center, presenting "Health, Economics, Market Access and Regulatory Road Map" event attended by nearly 85 followed by 30 one-on-one meetings with leaders of North Carolina small businesses. Additionally, the ECD group sponsored the MedTech Innovators Southeast Regional Pitch event on April 9, 2018 with 16 judges and 23 companies participating including 14 from NC. Three NC companies were selected to the Accelerator or MedTech Showcase programs. Lastly our partner Wilson, Sonsini, Goodrich and Rosati presented an entrepreneurial boot camp June 13, 2018 for over 90 participants and brought in three investors and one strategic partner to participate in 27 company meetings.

- Industrial Internship Program (IIP) - the IIP was initiated in fiscal 2012 to support business and life science undergraduates and graduate students who are seeking experience in the life sciences. The IIP funds up to ten high-quality three-month summer internships which benefit the intern as well as the life science company selected to participate. The program awarded $30,000 this year.

- BATON - a network of more than 200 service providers (staffing agencies, accountants, attorneys, grant writers, etc.) committed to supporting startup companies, often at a discount. North Carolina entrepreneurs searched this database nearly 1000 times in FY2018.

Priming the innovation pipeline

NCBiotech also works prior to company formation, priming the innovation pipeline at the university level through research grants managed by its Science & Technology Development program. These grant programs are designed to build statewide research capacity, explore commercial applications of university innovations, enable the licensing of these inventions to commercial interests, and develop a highly-trained scientific workforce – all to realize the Center's vision of North Carolina as a global life science leader.

Center grants to universities have led to over 2700 scientific publications, 183 invention disclosures, 37 licenses and the formation of 40 companies. Grant awardees have subsequently secured over $2 billion in follow-on funding (FoF) brought into the state (an average of $40 in FoF for each $1 granted by NCBiotech), reflecting the strong leveraging impact of Biotech Center funding.

With funding provided by Pfizer, Inc., NCBiotech launched the Pfizer-NCBiotech Distinguished Fellowship in Gene Therapy in FY2018. Six fellows were admitted into the program in the first of three, two-year classes.

Grant applications are evaluated by SciTech staff and by outside reviewers with relevant scientific or product development expertise. Awards are approved either by a subcommittee of the NCBiotech board of directors or by the Center President/CEO. Grant awards totaling $3,006,340 were made in FY2018 and were allocated as follows:

Institutional Development Grants (4)	$647,263
Biotechnology Innovation Grants (8)	$767,948
Technology Enhancement Grants (6)	$449,089
Pfizer-NCBiotech Gene Therapy Fellowship (6)	$1,142,040

Additional awards are detailed in the body of this report. A full list of NCBiotech funding is available at http://www.ncbiotech.org/past-awards.

Sector Development

This year, NCBiotech continued its work in agricultural biotechnology and bio defense. Work with the North Carolina Precision Health Collaborative has continued to grow and gain momentum as the center expands this work across the state. Its successes are detailed below. Teams and NCBiotech also began working on opportunities specific to the contract research industry, and helping transitioning military find jobs in the life sciences. As these latter initiatives grow, we will detail successes in future reports.

Bio Defense

NCBiotech has taken a broad view of this sector to bring more military, defense (DoD) and homeland security (DHS, BARDA) funding to North Carolina companies and universities. Life science applications

include vaccines and novel technologies that will protect our soldiers, heal those who sustain wounds in battle, and protect the food supply.

The Bio Defense initiative has worked to develop a foundational understanding of the DoD's organizational structure and funding priorities. Given its size and complexity, the DoD and its many components can be confusing and intimidating to the uninitiated. Understanding this complexity and communicating the relevant elements that matter most to specific stakeholders has been of significant value to the NC life science community. One specific example would be the close working relationship developed with Womack Army Medical Center located at Fort Bragg in Fayetteville. As Womack clinicians begin to explore the world of clinical research, NCBiotech personnel can connect them to NC-based researchers or companies that are doing work in their areas of interest. This brings value to all parties involved and builds the necessary relationships to create new collaborations and partnerships.

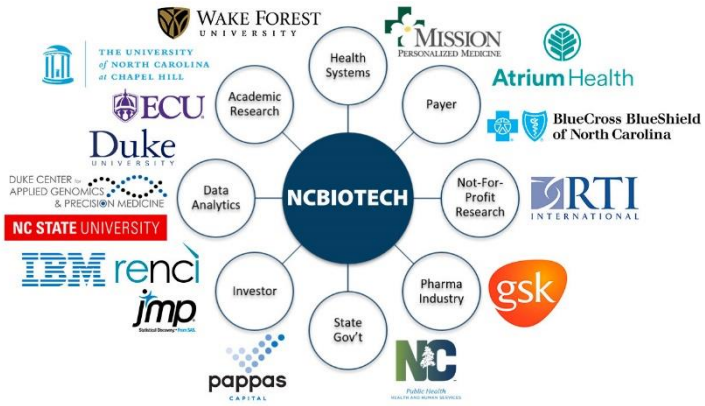
NCBiotech also hosted the following events, which linked local researchers and companies with federal agency and military representatives:

- Medical, Biomedical and Biodefense: Support to the Warfighter Symposium (co-hosted with the NC Military Business Center)
- Cape Fear Research Consortium meeting
- National Defense University, Eisenhower School, U.S. Department of Defense Senior Service School, Biotechnology Industry Study Group

Center staff continued efforts to better connect NC life sciences to the defense sector by engaging and collaborating with many military support groups including the NC Military Business Center, the NC Military Foundation and the NC Defense Business Association. Additionally, the direct relationships that the Center staff has established with the defense, military and homeland security personnel have allowed several referrals for potential funding and collaboration opportunities.

Precision Health

NCBiotech continues to cultivate the emerging sector of Precision Health and grow an ecosystem rich in relevant workforce talent, research, and clinical expertise. Precision Health expands beyond being an emerging approach for disease treatment and prevention that takes into account individual variability in genes, environment, and lifestyle. Our sector development work also captures and includes new technologies and also the variety and diversity in tools, partners (e.g., public health) and ever-advancing innovations. All of these play critical roles in the full implementation of precision healthcare.



Key FY 2018 achievements include:

- Solidifying the formation of the North Carolina Precision Health Collaborative (NCPHC).

- Contributing to a broader and far-reaching life science ecosystem that positively impacts research and translation, workforce development and clinical outcomes with the implementation of precision health.
- Engaging in the recruitment of precision health companies and experts to advance the Precision Health Sector.
- Successfully concluding two pharmacogenomics research pilots in rural western North Carolina, featuring (1) education and care management for primary care physicians and their poly-pharmacy patients and (2) oncologists and supportive care for their cancer patients undergoing chemotherapy.
- Providing a panel of experts at the annual BIO meeting, Precision Medicine and Diagnostics track in Boston – entitled "Partnerships Power Precision Health: Collaborative Models for Advancing Precision Medicine" – including experts from NIH's "All of Us Research Program," Color Genomics, and Blue Cross Blue Shield Association, and moderated by the Vice Chancellor for Research from the University of North Carolina at Chapel Hill.
- Planning and finalizing the research protocol for the **C**ancer & **H**ereditary dise**A**se **M**anagement -- **P**opulation **S**creen (CHAMPS) pilot. This multi stakeholder clinical impact and feasibility pilot project will gather evidence from healthy North Carolina citizens about the benefits and harms of population screening of healthy adults for mutations for three highly actionable hereditary chronic conditions and will launch by 2019.
- Continuing to expand our network and participation with less conventional partners including NC's public health leaders and others within NC DHHS.

Strategic Team Project – *Contract Service Organization Engagement*

North Carolina is the undisputed world leader in the CSO sector with the greatest concentration of corporate headquarters of leading CSO companies. More than 150 companies in the state offer contract pharmaceutical, biopharmaceutical, biologic, diagnostic, and device services. That's expected to increase to 176 companies with 26,000 employees by 2021. These companies range from some of the largest global contract service companies to small businesses born out of industry and education networks in the state. With North Carolina serving as a leader for the contract service industry, and with the continued growth of the contract service sector globally, it is critical that North Carolina support the industry's development and assist in nurturing collaboration between North Carolina's product and service entities.
The Strategic Team Project is focused on developing a strategy for NC Biotech engagement and support of the CSO industry to increase CSO investment and employment in the state. In alignment with the Center's pillars we intend to: 1) BUILD a robust life science community to include the contract service sector; 2) PARTNER to develop networks and enhance connectivity across the CSO community, 3) INVEST in targeted development of the CSO industry in NC to enhance company growth and 4) COMMUNICATE the strength of NC as a global hub for the CSO industry.

In November 2017, we hosted a CRO industry roundtable to understand workforce needs including internships, hiring, training and retention. From that meeting, we developed an industry-academia advisory committee composed of the CRO industry, academic institutions with clinical education programs, and representatives of the major state medical centers' clinical site programs. We currently have representatives from eight CROs and seven academic institutes, including both clinical research training programs and university-affiliated clinical site programs (e.g. Duke, UNC-CH, and Wake Forest).

Ultimately, two subcommittees were developed with goals to 1) improve and expand clinic-based workforce development in NC via curriculum enhancement and development and, 2) to develop and

broaden the availability of CRO internships. Additionally, both subcommittees have incorporated goals to increase awareness of CRO industry trends and career opportunities across the state. As these activities are in progress, NCBiotech is concurrently benefiting from enhanced understanding and connectivity with the CRO industry.

Agriculture Sector Development

Agriculture and agribusiness – food, fiber and forestry – generate $87 billion in annual revenues for North Carolina's economy. NCBiotech has positioned N.C. as a global ag biotech leader by combining the state's biotechnology base with its agricultural assets. Market forces have slowed growth of the big global ag tech firms with consolidation activity continuing. Mid-sized company growth and start-up activity will offset a portion of the large company moves during this fiscal year. The ag tech sector generally has seen investment growth in innovation companies particularly those with cash flow. Local examples are AgBiome, Precision BioSciences – Ag Division, and Advanced Animal Diagnostics. Several successful recruitments added diversity to the sector through additional focus areas such as high-tech feed supplements (Premex), soil health (Soil Health Institute), and plant microbiome (Plant Impact).

Activities of NCBiotech's Agriculture Sector Development team are guided by the N.C. AgBiotech Advisory Council consisting of 16 leaders from industry, academia and government who meet three times annually. Key activities include:

- **Ag Biotech Plant and Animal Showcase 2018 –** The Showcase was an international event with presenters coming as far as South Africa, with the winner provided a cash award. From the previous year reception and program feedback from attending investors, we continued the format that was updated at that time.
- **Ag Biotech Leadership Roundtables –** The leadership roundtables were started late in 2016, in an effort to bring together the leadership from companies across the state, to discuss predominantly how the NC ecosystem suited their needs and what aspects of the ecosystem needed to be better developed so that it would help them with their plans to grow their companies further. Cohorts of 5five to seven leaders convene over lunch for an informal conversation. This has led to developing research and commercial relationships between companies. Based on the interest expressed by animal health and nutrition companies, we're now making an effort to bring this subsector together.
- **Crop Program** – The Crop Center accelerates crop improvement, provides solutions, and secures resources from outside of state funding to direct improvements to NC agriculture. This unique program supported more than $250,000 of field research in the state through multiple investigators and academic institutions. Through the award of an internal STP grant, the team is targeting processes which could become institutionalized throughout the Center. Current projects which included seed funds from NCBiotech include winter oilseeds such as canola and camelina, food ingredient crops such as stevia and black carrots, and an evaluation of statewide botanical extraction facilities.
- **Ag Biotech Professional Forum –** This professional networking forum facilitates the buildup and growth of the ag ecosystem by bringing together people from different ag companies, universities, institutes and allied professions community. Four forums were held in 2017–18. More than 70 people and 44 organizations attended each event. The summer social brought in more than 150 people. The speaker was a science standup comic, Tim Lee, and the audience loved the drone demonstrations that was exhibited by Precision Hawk.

- **Ag Biotech Summit 2018 –** Focused on sustaining and protecting the most precious agricultural resource, soil, the program was attended by 157 professionals from 82 different organizations. The Soil Health Institute, the lead sponsor, was a valuable partner in the success of the program and reinforced the decision to pursue this biennial event with a key partner.

State funding was supplemented by grants and sponsorships to achieve these outcomes.

Statewide development

Programs that develop technologies, companies and sectors, above, are applied statewide with the assistance of NCBiotech's regional offices. The offices' executive directors match regional strengths, life science technologies and NCBiotech programs to grow companies and technologies, developing economic drivers for each region.

In addition to developing companies and technologies within the state, NCBiotech works with statewide partners to bring life science companies to the state. With low business costs and specialized strengths in vaccine and pharmaceutical production, cancer research and medical research, North Carolina has a strong value proposition for companies looking to locate new facilities.

Regional offices

The regional offices collectively ensured the benefits of biotechnology – high paying jobs and economic growth – made their way to the regions. Several recruitment projects landed in North Carolina, attracted to regions that have been strengthened by efforts of the regional offices. Regional activities are guided by leaders from industry, academia and economic development, who meet quarterly to discuss strategy and tactics for each region. The Regional Impact of Statewide Engagement across North Carolina (RISE_NC) initiative was created and launched in the regions. It links NCBiotech resources with regional strengths and interest to seed life science cluster growth statewide.

Eastern Office

The Eastern Office in Greenville is continuing to build on the previous growth and expansion opportunities of the pharmaceutical manufacturing facilities at Thermo Fisher (formerly Patheon) and Mayne Pharma, located in Greenville. To support these growth initiatives, we helped create the North Carolina Pharmaceutical Services Network (NCPSN). This one-of-a-kind collaboration provides a continuum of pharmaceutical education and training to new and existing companies in North Carolina and beyond. The Pharmaceutical Services Network at Pitt Community College (PSN@PCC) provides a pilot-plant-type manufacturing environment and lab-scale equipment to teach oral solid dosage theory and manufacturing technique. Coursework includes weighing, milling, granulating, blending, tableting, tablet coating and encapsulation. Since inception, the PSN@PCC has offered 16 classes, training over 150 incumbents.

In addition to the Pharmaceutical Services Network, a Veterans Workforce Development Training Initiative pilot program has been implemented with Mayne Pharma, to assist with their hiring needs in support of their new oral solid dosage (OSD) facility expansion needs. NCBC is leading this initiative with assistance from many other entities to determine how best to market life sciences in North Carolina, to those transitioning military members, identify the necessary skill sets developed while serving in the military that are transferrable to meet the OSD manufacturing industry needs, and utilize the Pharmaceutical Services Network curriculum to further assist in the necessary training needs to support industry requirements.

The Employee Commuting Study was implemented statewide, and feedback was received from 58 companies, located in 24 counties across every region, employing more than 25,000 people. The commuting-pattern results identified the significance of life sciences across the urban and rural sectors, as employees are commuting from 93 of North Carolina's 100 counties.

Greater Charlotte Office

The Greater Charlotte Office has been engaged with the North Carolina Research Campus in Kannapolis since its inception nearly a decade ago. Given its focus on human health, nutrition, and agriculture, we share a mutual interest in growing the campus, which has resulted in a multi-faceted relationship that continues to deepen and evolve. The Charlotte Office's integration into the Campus Development Team uniquely positions our staff to assist with strategy development and project implementation. The team's efforts have led to numerous successes including the opening of the 10,000 square foot Standard Process Center of Excellence and establishment of the Food Processing Innovation Center (FPIC), a new 10,000 square foot pilot made possible by a state appropriation of $4.4M, with $700K in recurring funds allocated to the project. FPIC is a collaboration with North Carolina State University's Plants for Human Health Institute and the North Carolina Department of Agriculture and Consumer Services.

The medical device sector emerged as a regional area of focus based on a concentration of assets, committed partners, opportunities to grow the sector and to fill a void – no single entity was connecting these stakeholders and addressing their needs. As dialogue matured, a focus on innovation became the priority for regional efforts and a cross-regional Strategic Team Project.

- Co-hosted a prototyping workshop summer 2017 at Medical Murray for Atrium Health (formerly Carolinas HealthCare System) practitioner innovators.
- Partnered with Economic Development Partnership of North Carolina to host a medical device conference; planning is underway for the fall 2018 event.
- Submitted a Strategic Team Project (STP) proposal focused on practitioner innovation.

The STP was ultimately awarded in support of the Clinician Innovation Initiative, established to increase the number and quality of new technologies and products being developed by clinicians in North Carolina by fostering innovation among practitioners though education, awareness, resource development, partner engagement, and funding identification. The initiative will first target Physician Assistants (PA) to leverage our strong relationship with the North Carolina Academy of Physician Assistants (NCAPA).

In support of the Center's focused initiative on biodefense, the Charlotte Office continues to track regional defense-related research and actively engage with the North Carolina Defense Business Association (NCDBA). Charlotte personnel represented the Center at the inaugural NCDBA Washington DC Outreach Conference, have been appointed to serve on the 2019 DC Outreach planning committee, and participate in monthly legislative forums. Active participation in NCDBA's Western Outreach Committee positioned the Charlotte Office to convene members at the North Carolina Research Campus and the University of North Carolina at Charlotte's Charlotte Research Institute. UNC Charlotte has since agreed to host bimonthly meetings, which allows NCDBA to increase meeting frequency and attract new members.

Piedmont Triad Office

The Piedmont Triad Office in Winston-Salem collaborated with its regional advisory committee consisting of executives from global companies, small start-ups and research institutions. Efforts are underway to

strengthen entrepreneurial enterprise, support existing industry and workforce needs including identifying recruitment opportunities. Sectors of focus are labs and diagnostics; regenerative medicine; medical technology & devices; clinical trials; ag biotech; and nanobiotechnology.

Specific outcomes have included:

- Lab and Diagnostic Sector Growth: Center of Excellence in Biotechnology – NC Biotech Economic Development Award ($100k) was granted to support 20 new jobs in Alamance County strengthening the local community's ability for growing sector of precision health, lab and diagnostics where there is a need to accelerate training and innovation for unique talent and workforce. Led initiative and collaborated with Lab Corp, the City of Burlington and Alamance Community College.
- Leveraging Global Scientific Leadership: Regenerative Medicine is considered the "next evolution of medical treatments" as documented in its 2020: A New Vision report by the US Dept. of Health and Human Services. The Piedmont Triad is home to the Wake Forest Institute of Regenerative Medicine (WFIRM) led by Dr. Anthony Atala and the Armed Forces Institute for Regenerative Medicine which is a federally funded consortium developing clinical therapies. Recent outcomes have included increased participation with the regional advisory committee and support for national, statewide and regional conferences in the region.
- Workforce Development Advisor: Appointed to Piedmont Triad Workforce Development Board working with strategic talent alignment efforts. In addition, served as advisor to National Center for the Biotechnology Workforce at Forsyth Tech where the National Science Foundation (NSF) recently awarded $579,961 to define the workforce skills for biomedical devices and tissue engineering.
- Establishing Technology Resource Network: Progress in developing a mechanism to increase exposure and access to expertise and funding. Identified partnerships with Wake Forest Innovation Quarter, Gateway University Research Park and the entrepreneurial ecosystem. In addition, launched the Piedmont Triad Biotech Alliance exchange group in collaboration with Venture Café's Global Network to engage the C-suite of life sciences entrepreneurs.
- Statewide Initiative Support: The Piedmont Triad contributed to the Employee Commuting Study with a sample of 14 companies headquartered in four counties. Collectively these companies had 6,864 employees commuting from 50 counties including many surrounding rural communities.

Southeastern Office

The Southeastern Office in Wilmington worked on many projects related to company relocation/recruitment and expansion, as well as entrepreneurial venture creation. Projects included OptimaKV's successful start of operations to create biogas from hog waste and inject that biogas directly into existing natural gas pipeline infrastructure in Duplin County, as well as other hog-waste-to-energy projects to support the region's focus on industrial biotechnology.

The Southeastern office continued to promote entrepreneurship in oyster farming, fish farming, pharmaceutical development, and other marine-biotech-related opportunities. The office also initiated several company visits, relocations, and business line expansions to the UNCW MARBIONC Biotech Building, in support of the regional marine biotech cluster.

As part of the NC Coast Clinical Research Initiative, the SoutheasternOffice worked with UNCW's College of Health and Human Services to launch FuseCR, a clinical research workforce development initiative and collaborative space to support the local CR industry. The program was funded initially by a $390,000 grant from Duke Energy, with significant matching support from UNCW. The office also hosted an event series for

clinical research professionals and students and continued its work to implement a clinical research workforce development program with UNCW's College of Health and Human Services.

Western Office

The Western Office in Asheville has continued to work closely with university and economic development leaders to identify regional opportunities and support business growth. The Western Region had several exciting announcements this past fiscal year related to life science startup companies. Avadim Technologies Inc., which has developed patented topical therapies for infection prevention, neuromuscular disorders and skin repair, has been named for two consecutive years on the list of Inc. 500 fastest growing private companies nationally, coming in at #167 this past year. Another private company, Pneuma Respiratory located in Boone, emerged in the digital inhaler and pharmaceutical delivery space and began its process of raising capital, building partnerships and completing regulatory requirements.

Several studies were completed in the western region last fiscal year which highlighted very positive figures in key sectors. Since 2011, there has been more than 60 percent employment growth in pharmaceutical preparation manufacturing, led by Baxter International in Marion. In the same period, the region has experienced more than 50 percent growth in value-added agricultural and food processing jobs. The results of the statewide commuter study showed that, in the western region, there are 4,261 employees commuting from 36 counties to the eight surveyed life science companies located in four counties. The regional office is building on data such as those provided above to strengthen these key areas of growth and develop initiatives with partners to support future business growth and recruitment.

Ecosystem Development

For a state to be a global leader in life science, it needs a strong, vibrant community to keep it moving forward. The sum of technology, company, sector and regional development is an ecosystem or community that connects and grows the resources to support a global life science leadership.

NCBiotech produces a range of events and other activities to seed and grow this connected community. Events generally bring together a large number of people around a specific topic and include:

- Intellectual exchange groups (IEGs) connect academic and industry professionals who share common interests. The Center provides funding, meeting space, event management and/or bookkeeping services to these groups. In FY2018, 14 Center-sponsored IEGs convened 120 meetings, which attracted 4,683 attendees. We created three new IEGs to capitalize on growing academic and corporate interests for STEM advocacy, chromatography and mass spectroscopy.
- A dozen regional exchange groups convened across the state on topics of interest to each region. Topics include clinical research, laser microscopy, genomics, and entrepreneurial and economic development.
- The NCBiotech Jobs Network held 11 events in FY2018 that were attended by 675 mid-career professionals, postdoctoral fellows, corporate hiring managers and staffing agency recruiters.

NCBiotech also makes many individual connections through its website, coaching sessions and other targeted activities, which this year also included:

- Program marketing and consultations - SciTech staff gave five presentations at universities and research institutes across the state and conducted 57 consultations with prospective grant applicants in FY 2018.
- NCBiotech jobs board – 719 jobs were posted and 3565 job seekers registered.
- The Life Science Intelligence team held its first day-long event, Informing Innovation, designed to introduce database products for full-text journals, pipeline research, literature searching and other key tools to companies in the region. Over 120 people registered for the event and 10 vendors participated.

Hundreds of visitors also used the NCBiotech Life Science Intelligence team's business resources. The research analysts logged 157 research requests from external clients (not including research done as part of our ongoing service contract with BD Technologies). More than 200 unique entities (companies and educational institutions) used the services of the Life Science Intelligence team.

NCBiotech organizes a variety of local and regional events that showcase the Center's and North Carolina's strengths to the world. This year's events included partnering meetings at BioEurope, and a recruitment and investor breakfast at the annual Life Science Conference. Our second year of recreating the North Carolina reception drew nearly 200 life science executives from around the world.

Looking to the Future

NCBiotech has begun its 2019 fiscal year, and will continue maximizing state resources to create high-paying jobs for North Carolina. Already, promising companies fill our loan application pipeline. Technologies close to commercialization are being considered by our grants team. Our precision health initiative is gaining national attention. Regional initiatives are extending the impact of life science further into rural areas. And a new emphasis on global marketing, company recruitment and company retention will imprint North Carolina's brand around the world.

For the most up-to-date information on the Biotech Center, please visit our website, www.ncbiotech.org.