

NORTH CAROLINA BIOTECHNOLOGY CENTER



2004 Annual Report

CONTENTS

- 1** *Message from the President and Chairman*
- 4** *Accomplishments*
- 10** *Moving Ahead in Biomanufacturing*
- 13** *New Jobs Across North Carolina*
- 15** *Grants and Loans Awarded In 2003-2004*
- 20** *Program Structure & Task Areas*
- 22** *Board of Directors*
- 23** *Financial Statements*

20 Years of Building Biotechnology in North Carolina

Message from the President and Chairman

THE 2003–2004 FISCAL YEAR was one of the busiest and most productive ever for the Biotechnology Center, marked by several significant accomplishments. It was also a particularly exciting year for North Carolina’s biotechnology community, ending with a report from Ernst & Young that our state now has more biotechnology companies than any other besides California and Massachusetts!

The Biotechnology Center began its fiscal year with a charge from Governor Easley to lead the development of a strategic plan to guide future state investments in biotechnology. Directed by a blue ribbon steering committee co-chaired by former Governors Hunt and Martin, and shaped by input from more than 120 North Carolinians representing every major facet of biotechnology development, *New Jobs Across North Carolina: a Strategic Plan for Growing the Economy through Biotechnology* was presented to Governor Easley early in 2004.

The plan lays out a comprehensive approach to new job creation that balances support for university and industry spin-outs with the attraction of more mature and emerging life sciences companies to North Carolina. Most importantly, the 54 strategies described in the plan leverage the talents and resources of all participants in our large and cohesive biotechnology community to ensure North Carolina continues to be identified as a leading place for biotechnology research, development, commercialization and manufacturing for years to come.

The remarkable progress that has been made on many aspects of the plan since it was released has verified the tremendous importance North Carolinians and their leaders accord biotechnology as a tool for economic and community development. The state budget for fiscal year 2004–2005 contains at least partial funding for several of the plan’s strategies including, we are happy to report, a \$5 million increase in the Biotechnology Center’s annual appropriation.

Our new funds will be used to expand existing grant and loan programs in university research and infrastructure, work force training and education, and company start-up and development. They will also be used to facilitate regional biotechnology development and to support our growing network of satellite offices. This network expanded to two in June with the official opening of our office in Asheville to serve western North Carolina, and we are working to identify an appropriate location for an office in the east. Our Piedmont Triad office has become a valued resource in its community.

1984

- DNA fingerprinting technique is developed.
- First genetically engineered vaccine is developed.
- Chiron clones and sequences the entire genome of the HIV virus.

1985

- North Carolina Biotechnology Center is established as a private, non-profit corporation and the world's first government-sponsored initiative in biotechnology.
- North Carolina General Assembly appropriates \$1.2 million toward construction of a Biotechnology Center headquarters building.

science of biotechnology

North Carolina also moved ahead on other high-priority strategies identified in *New Jobs Across North Carolina*, including work force development and capital formation. Tangible progress occurred in all components of the Biomanufacturing and Pharmaceutical Training Consortium (BPTC), a unique program that — when fully operational — will train thousands of workers each year to staff our large and growing number of biotechnology and biomanufacturing companies. The Biotechnology Center was instrumental in documenting the need for the BPTC through its 2003 Window on the Workplace survey, and we continue to play a major role in all facets of the Consortium's work.

The BPTC has made North Carolina a clear standout for companies seeking to locate or expand their pharmaceutical and biomanufacturing companies. It is the direct result of industry leadership, enthusiastic participation from the University of North Carolina System and the North Carolina Community College System, and a \$60 million grant from the Golden LEAF.

Golden LEAF's belief in biotechnology as an important source of future jobs and economic gain in North Carolina was further verified this year when it invested \$30 million in HBM BioCapital through North Carolina-based Hatteras BioCapital Fund. HBM BioCapital is the latest fund of Zurich, Switzerland-based HBM Partners, a highly regarded international life science investment group with over \$750 million under management and current investments in several North Carolina bioscience companies. By retaining Hatteras BioCapital Fund as an investment advisor, HBM has strengthened its commitment to North Carolina and helped to ensure the availability of more high-quality venture capital for our state's later-stage bioscience companies.

North Carolina's participation at BIO 2004 in June in San Francisco brought a terrific end to our fiscal year. Our state was well represented in its pavilion by large and small companies, state, regional and local economic developers; public and private universities; several community colleges; and, of course, the Biotechnology Center. During this conference, attended by over 17,000 people from across the globe and economic developers from every state and dozens of countries, Ernst & Young announced that North Carolina is officially the third leading state



Leslie M. Alexandre, Dr.P.H.
President and Chief Executive Officer

- First field tests of genetically engineered plants (tobacco) are conducted.

- Ortho Biotech's Orthoclone OKT3, used to fight kidney transplant rejection, is approved as the first monoclonal antibody treatment.

- North Carolina conducts its first field test of a genetically modified plant — an herbicide-tolerant tobacco developed by the CIBA-GEIGY Agricultural Biotechnology Research Center in RTP.

- First biotech-derived interferon drugs for the treatment of cancer — Biogen's Intron A and Genentech's Roferon A — are approved by the FDA. Later, the drugs are used to treat Kaposi's sarcoma, a complication of AIDS.



Robert S. Timmins, Sc.D.
Chairman of the Board

for biotechnology. Also during BIO 2004, the Milken Institute and the Battelle Memorial Institute independently ranked the Research Triangle as third in the nation among the country's top metro areas in biotechnology.

These high rankings affirm that two decades of sustained investment by North Carolina in the key underpinnings of biotechnology economic development have paid off handsomely. Our state is the envy of most others, particularly those that have only recently turned their attention to programs designed to capture the economic benefits associated with biotechnology.

As this annual report goes to press, we have just celebrated the 20-year anniversary of the Biotechnology Center. Created as a non-profit organization by the State in 1984, the Biotechnology Center has served as an important catalyst for biotechnology research, development, commercialization and manufacturing in North Carolina. We could not have done so without the support of the Governor, the General Assembly, the Council of State, and all of

our many partners throughout the state's biotechnology community, and for that we are grateful. We especially want to acknowledge the hard work and dedication of our talented staff and Board of Directors, and we want you to know that the Biotechnology Center is committed to working just as hard over the next 20 years to ensure North Carolina reaches its stated goal of having 125,000 biotechnology-related jobs by 2023.

We are off to a great start!

Leslie M. Alexandre, Dr.P.H.
PRESIDENT AND
CHIEF EXECUTIVE OFFICER

Robert S. Timmins, Sc.D.
CHAIRMAN OF THE BOARD

- First genetically engineered human vaccine — Chiron's Recombivax HB — is approved for the prevention of hepatitis B.

- Humatrope is developed for treating human growth hormone deficiency.

- Advanced Genetic Sciences' Frostban, a genetically altered bacterium that inhibits frost formation on crop plants, is field tested on strawberry and potato plants in California, the first authorized outdoor tests of an engineered bacterium.

- A national workshop on Forest Biotechnology is held in North Carolina in January 1987.
- First BT Catalyst newsletter is published by the Biotechnology Center.

1987

science biotechnology

ACCOMPLISHMENTS

Core Programs and Services

CONTRIBUTIONS FROM UNIVERSITIES, businesses and educational institutions are required to move biotechnology from ideas to commercial products. The Biotechnology Center strengthens North Carolina's biotechnology capabilities in university research, business and education through three core programs and related services. Following are accomplishments of those programs and services in 2004.

Science and Technology Development

The Science and Technology Development Program strengthens the biotechnology research capabilities of North Carolina's universities and institutions through grants and intellectual exchange programs. In 2004, the Program:

- Awarded six grants totaling \$710,999 to help five North Carolina universities acquire multi-user research facilities and equipment. These awards, made through the Institutional Development Grants Program, are listed on page 15.
- Awarded \$530,000 to support three research collaborations between universities. These awards, provided by the Multi-Disciplinary Research Grants Program, are listed on pages 15-16.
- Awarded \$250,000 to support three research collaborations between universities and biotechnology-related companies. These awards, provided by the Collaborative Funding Assistance Award Program, are listed on page 16.
- Awarded \$100,000 to a university to help it recruit an outstanding faculty member. This award, provided by the Faculty Recruitment Grants Program, is listed on page 16.
- Supported six intellectual-exchange organizations working in key areas of biotechnology: the North Carolina Plant Molecular Biology Consortium, the North Carolina RNA Society, the Triangle Virology Association, the Smaller Eukaryotes Group, the Biochemistry and Enzymology Group, and the Bioprocessing & Process Development Group.

Business and Technology Development

The Business and Technology Development Program helps biotechnology companies with financing, technology assessment, technology transfer, business plans, networking opportunities, venture capital placements, marketing strategies, strategic partnerships, site locations and professional referrals. In 2004, the Program:



• *The Biotechnology Center's Secondary Education Project begins to train teachers on effective ways to present biotechnology lessons that appeal to students.*

• *Congress funds the Human Genome Project, a massive effort to map and sequence the human genetic code as well as the genomes of other species.*

• *Dr. Charles E. Hamner, Jr. is hired as president of the Biotechnology Center, effective February 1, 1988.*



1988

- Provided loans totaling almost \$1.2 million to eight young biotechnology companies for product research and development. These awards, provided through the Small Business Research Award Program, are listed on page 17.
- Provided a \$75,000 loan to help a company carry out its research between funding phases of the federal Small Business Innovation Research program. The award, provided by the SBIR Bridge Fund Program, is listed on page 17.
- Awarded loans totaling \$30,000 to help two young biotechnology companies with their business-development activities. These loans, provided through the Business Development Award Program, are listed on pages 17-18.
- Supported several conferences, symposia and workshops on the science underlying biotechnology. These awards, made through the Biotechnology Event Sponsorships Program, are listed on page 18.
- Cosponsored Biotech 2004 with the Council for Entrepreneurial Development (CED), the North Carolina Biosciences Organization and the Biotechnology Industry Organization. The annual meeting of the state's biotechnology community attracted about 900 people for a day of networking, exhibits and presentations.
- Cosponsored the Biotechnology Forum with the CED. The Forum is a monthly gathering of biotechnology executives who network and hear panel discussions from industry leaders on business and technology topics.
- Participated with the North Carolina Department of Commerce in missions to Europe and Asia focusing on life science company recruitment and expansion efforts.
- Provided dozens of biotechnology companies and entrepreneurs with professional referrals, technical and business advice, relocation assistance, technology transfer expertise and other assistance.



More than 50 companies, universities, community colleges and service providers participated in a 3,300-square foot North Carolina pavilion at the 2004 Biotechnology Industry Organization (BIO) Annual International Conference in San Francisco in June.

1989

- Amgen's Epogen is approved for the treatment of renal disease anemia.
- Gene responsible for cystic fibrosis is discovered.

- North Carolina General Assembly passes a bill, drafted by the Biotechnology Center-sponsored Advisory Committee on Biotechnology in Agriculture, to regulate the release of genetically engineered organisms into the environment. Over time, other states and nations emulate it.

1990

- First federally approved gene therapy treatment is performed successfully on a four-year-old girl suffering from an immune disorder.

- Embrex, one of the first start-up companies to receive Biotechnology Center funding, goes public in November 1990.



The Biotechnology Center's full-service Library and Information Services unit provides Biotechnology Center staff and the public with information on the commercial, educational and societal aspects of biotechnology.

- Assisted in organizing and implementing the North Carolina pavilion at the Biotechnology Industry Organization (BIO) Annual International Conference in San Francisco.

Education and Training

The Education and Training Program promotes work force preparedness and public understanding of biotechnology through teacher training, teaching materials, grants programs, needs assessments and other activities at all educational levels throughout North Carolina. In 2004, the Program:

- Made five awards totaling \$30,000 to community colleges for BioWork, an entry level course developed by the Biotechnology Center and taught at several community colleges to prepare students for biomanufacturing jobs. These awards, made through the BioWork Award Program, are listed on pages 18-19.
- Awarded eight grants totaling \$185,605 to strengthen biotechnology education and training programs. These awards, made through the Education Enhancement Grants Program, are listed on page 19.
- Awarded six grants totaling \$28,963 to develop and incorporate biotechnology curricular materials in grades K-12. These awards, made through the Biotechnology Education Mini-Grants Program, are listed on page 19.
- Sponsored four summer workshops throughout the state that prepared about 75 middle school, high school and college teachers to teach about the science, applications and issues of biotechnology.

Charles Hamner Conference Center

The Biotechnology Center's 19,000-square-foot Charles Hamner Conference Center is a local, state and national hub for meetings on the science, business and issues of biotechnology. It also serves clients from outside the biotechnology community. In 2004, the facility provided space, catered meals, and audiovisual support for 25,000 guests at 1,400 meetings.

1991

- Amgen develops Neupogen, the first of a new class of drugs called colony stimulating factors, for the treatment of low white blood cells in chemotherapy patients.

1992

- Recombinate, developed by Genetics Institute and used in the treatment of hemophilia A, becomes the first genetically engineered blood clotting factor approved in the U.S.

- *Biotechnology Center moves into new headquarters building with conference facility.*
- *First Annual Biotech Day is held in North Carolina.*

1993

- Chiron's Betaseron is approved as the first treatment for multiple sclerosis in 20 years.
- The Biotechnology Industry Organization (BIO) is created by merging two smaller trade associations.

**NORTH CAROLINA,
TRIANGLE RANK THIRD IN
NATION IN BIOTECH**

North Carolina has moved up to third in the nation in biotechnology, according to a new report released by Ernst & Young at BIO 2004 in San Francisco. The Ernst & Young report moves North Carolina ahead of Maryland, with California (No. 1) and Massachusetts (No. 2) remaining in the lead. The report bases its rankings on the number of biotechnology companies in each state.

In addition, the Triangle area of Raleigh-Durham-Chapel Hill ranks third in the nation among the country's top metro areas in biotechnology, according to a study by the Milken Institute. Milken's 2004 Biotech Index ranks the Triangle third behind San Diego and Boston. The Triangle was the only area in the Southeast that was a contender. The Milken index cites several attributes as reasons for the Raleigh-Durham-Chapel Hill area's high rank, including human capital and biotech work force categories. The region ranked first in both of those categories and ranked no lower than fourth in any of the five categories measured in the report.

For more information on the studies, visit www.ey.com or www.milkeninstitute.org.



Library and Information Services

The Biotechnology Center's full-service Library and Information Services unit provides Biotechnology Center staff and the public with information on all facets of commercial biotechnology. In 2004, staff answered 621 reference/research questions about the biotechnology industry for Biotechnology Center staff and external clients, and served several hundred visitors. In addition, many bioscience-related videotapes were loaned to North Carolina public schools, and various books, periodicals and articles were loaned to other libraries.

Corporate Communications

The Biotechnology Center's Corporate Communications staff informs the public about biotechnology, the Biotechnology Center's role in developing it in North Carolina, and the advantages of doing biotechnology business in the state. These messages are communicated through the newsletter *BT Catalyst*, other publications including this Annual Report, advertisements in industry journals, Web sites, media relations, trade shows and visitor briefings. In 2004, the staff also helped the N.C. Department of Commerce plan and execute the second North Carolina Pavilion at the BIO 2004 conference in San Francisco, allowing numerous companies, universities and non-profit groups statewide to be represented in one North Carolina exhibit.

• Last annual conference and exhibit of the Association of Biotechnology Companies (ABC) is held in Research Triangle Park, prior to the ABC's merger with the Industrial Biotechnology Association to form BIO.

• First gene associated with Inherited forms of breast cancer and ovarian cancer is discovered (BRCA1).

• *Recombinant DNA and Biotechnology — a two-volume textbook written by Biotechnology Center staff (Dr. Adrienne Massey and Dr. Helen Kreuzer) — is published in 1994 and is distributed nationally.*

• First full gene sequence of a living organism other than a virus is completed for the bacterium *Hemophilus influenzae*.

1994

1995





More than 100 people attended the opening of the Biotechnology Center's Western North Carolina satellite office at Asheville-Buncombe Technical Community College (A-B Tech) in June. State leaders including Lt. Gov. Beverly Perdue; Ray Bailey, president, A-B Tech; Martin Lancaster, president, N.C. Community College System; Jack Cecil, president, Biltmore Farms; Sec. Norris Tolson, N.C. Department of Revenue; Charles Moreland, Western North Carolina liaison, Biotechnology Center; and Leslie Alexandre, president & CEO, Biotechnology Center, discussed the area's opportunity to reap new jobs and community development by finding its niche in biotechnology.

Special Initiatives

In addition to its ongoing core programs and services, the Biotechnology Center worked on several special initiatives in 2004.

NEW JOBS ACROSS NORTH CAROLINA: A STRATEGIC PLAN FOR GROWING THE ECONOMY STATEWIDE THROUGH BIOTECHNOLOGY

In June 2003, Gov. Mike Easley charged the Biotechnology Center and leaders statewide to develop a long-term strategic plan to help guide future state investments in biotechnology. Led by a Steering Committee co-chaired by former governors Jim Hunt and Jim Martin, more than 120 North Carolinians diverse in geography and perspective shared ideas and experience in six work groups. In December 2003, the steering committee approved the strategic plan and transmitted it to Gov. Easley. In February 2004, the plan was unveiled by the Governor at a news conference in Raleigh. Many of the plan's 54 recommendations have begun to be implemented, and the Biotechnology Center is working with statewide partners to facilitate the implementation of many others.

PROJECT TO STRENGTHEN BIOTECHNOLOGY ACROSS NORTH CAROLINA

Plans to strengthen biotechnology throughout the state continued to take shape in 2004 with the Biotechnology Center's official opening of the Western North Carolina satellite office near Asheville in June. The satellite office is working with regional partners to develop biotechnology research, business and education in Western North Carolina for long-term economic and societal benefit.

- Corning BioPro (later known as Covance Biotechnology and purchased by Diosynth Biotechnology) decides to locate in North Carolina.

- Biogen's Avonex is approved for the treatment of multiple sclerosis. The company builds a \$50 million plant in Research Triangle Park to manufacture the recombinant interferon drug.

1996

science of biotech



In addition to the Western North Carolina office, the Biotechnology Center is establishing other satellite offices throughout the state to assist communities in developing biotechnology for economic gain. An office in Winston-Salem was opened in 2003 to serve the Piedmont Triad area, and two more are planned to serve Eastern North Carolina and Greater Charlotte. The four offices will link to the Biotechnology Center's programs and resources and work with community leaders to develop biotechnology-based businesses, drawing on each region's unique strengths, resources and capabilities.



The Charles Hamner Conference Center includes a 170-seat auditorium, a 40-seat boardroom, a 100-seat banquet room, upper and lower gallerias, a video conference facility, smaller meeting spaces, and a walled garden for outdoor events.

NORTH CAROLINA GENOMICS AND BIOINFORMATICS CONSORTIUM

The Biotechnology Center created the North Carolina Genomics and Bioinformatics Consortium L.L.C. in 2000 to strengthen the state's scientific, educational and business resources in genomics, proteomics and bioinformatics. Associates of this wholly owned Biotechnology Center subsidiary include nearly 80 companies, universities, and non-profit and government organizations. The Consortium enables these associates to share information and resources, plan strategic initiatives, and form alliances so they can accomplish together what they could not individually.

In 2004, the Consortium:

- Moved into the production phase of the North Carolina Grid, which will provide academic and industrial researchers across the state access to high-performance computing for storing, manipulating, analyzing and sharing data.
- Participated in the North Carolina Task Force for Genomics and Public Health.
- Hosted multiple speaker sessions for Consortium members to become more informed about math and science education initiatives across North Carolina.
- Worked with other members of the Sun Center of Excellence in Bioinformatics and Computational Biology in Research Triangle Park (including Duke University, the University of North Carolina, North Carolina State University, Research Triangle Institute, SAS, and MCNC) to begin planning for a Computational Biology Conference.

• Governor Jim Hunt receives the BIO Governor of the Year award.

• Biotechnology Center's first Web site launches in July 1996.

• Scottish researchers create Dolly, the first genetically modified mammal using DNA from adult sheep cells.

• A new DNA technique combines PCR, DNA chips and a computer program, providing a new tool in the search for disease-causing genes.

• North Carolina legislature passes a \$7.5 million special appropriation for a Bioscience Investment Fund.

1997

science of biotechnology

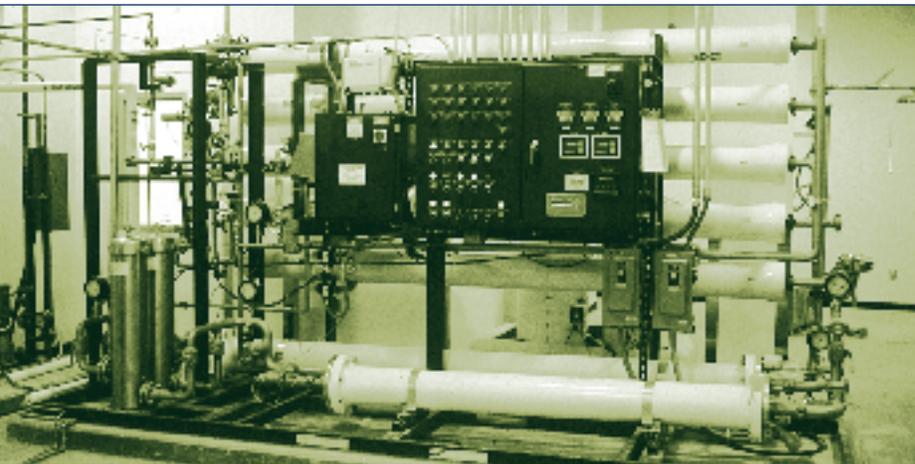
Moving Ahead in Biomanufacturing

THE BIOTECHNOLOGY CENTER SUPPORTED THE DEVELOPMENT AND TRAINING of a biomanufacturing work force in North Carolina in 2004 by backing the statewide efforts of the North Carolina Biomanufacturing and Pharmaceutical Training Consortium.

The Consortium, consisting of two North Carolina universities, the state's community college system, and several biomanufacturing companies, has begun planning facilities and programs for work force training after receiving a \$64.5 million commitment in August 2003 from the Golden LEAF foundation and the biomanufacturing industry.

North Carolina State University

North Carolina State University in Raleigh will receive \$36 million to build and equip a Biomanufacturing Training and Education Center (BTEC). The BTEC will encompass about 55,000 net square feet, with 35,000 square feet of lab teaching and education space.



Located on the Centennial Campus, the BTEC will contain Good Manufacturing Practices (GMP)-simulated laboratories in aseptic procedures, bioreactors, and downstream processing. The labs will be designed to facilitate the training of 900 to 1,500 students and trainees per year initially, with the ability to increase the training capacity as the need arises.

In addition to these GMP-like areas, BTEC will include bench-scale labs to teach and train in microbiology, quality assurance, bench-scale bioreactors and bioseparations, cloning, animal cell culture, immunology,

and other basics of biotechnology. The facility will also have distance education and regular classrooms, conference rooms, offices, and labs for faculty and instructors.

Groundbreaking is scheduled for the fall of 2005, with a target opening date in late fall of 2006.

• *First edition of Window on the Workplace is published by the Biotechnology Center, documenting the biomanufacturing industry's need for trained employees.*

• *Embryonic stem²Mb cells are used to regenerate tissue and mimic diseases.*

• *First complete animal genome for the elegans worm is sequenced.*

• *A rough draft of the human genome map is produced.*

• *A Strategy for Enhancing the Competitiveness of North Carolina's Bioscience Industry is published by the Biotechnology Center.*

• *\$10 million project is created to improve biotechnology teaching and training at the state's six historically minority universities.*

1998

1999

North Carolina Central University

North Carolina Central University in Durham will receive \$19.1 million to build the Bioprocessing Research Institute and Technology Enterprise (BRITE) and to develop graduate and undergraduate degree programs in applied process research.

The BRITE facility will be attached or in close proximity to the university's planned science complex. The science complex will be 120,000 square feet, and the BRITE will be 64,000 square feet. The goal is to open both buildings in the fall of 2006.

North Carolina Community College System

The North Carolina Community College System will receive \$9.4 million to recruit and train workers in local communities and serve as a feeder system to the BTEC and BRITE programs.

The funding will support the first two years of implementation of the system's strategic plan, "Meeting the Long-Term Skill Needs of North Carolina's Biomanufacturing Industries and Biotechnology Cluster," which calls for organizing the community colleges into a statewide BioNetwork.

BioNetwork will develop and enhance curricula and laboratories, and will dramatically increase the capacity of community colleges to educate, train and re-train North Carolinians for high-wage, high-skill biomanufacturing and related jobs.

BioNetwork will establish a biotechnology office with staff at the community colleges' headquarters to direct the



About 135 graduates of the BioWork course and other biotechnology programs attended a career fair for entry level biomanufacturing technicians in August 2003 at the Biotechnology Center. Eleven companies involved in biomanufacturing exhibited at the event, sponsored by the N.C. Community College System. BioWork is an entry level course developed by the Biotechnology Center and taught at several community colleges. It prepares students for additional on-the-job training at biomanufacturing companies.

• Initiated by the Biotechnology Center, the Institute of Forest Biotechnology is established.

• A rough draft of the human genome is completed by Celera Genomics and the Human Genome Project.

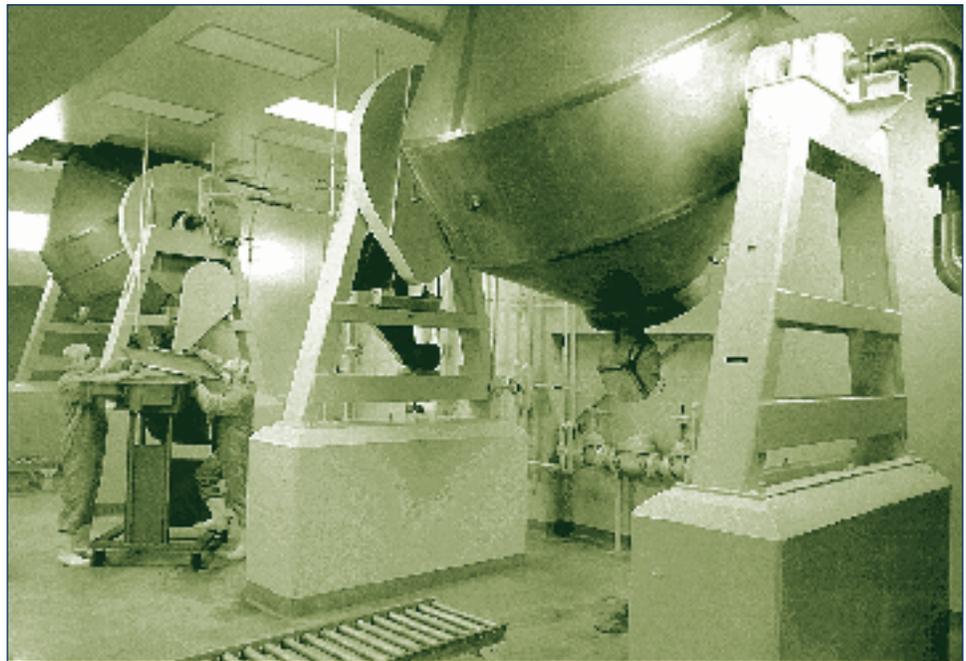
• Pigs are the next animal cloned by researchers, hoping to help produce organs for human transplant.

• The sequence of the human genome is published in *Science* and *Nature*, making it possible for researchers all over the world to begin developing genetically based treatments for disease.

2000

2001

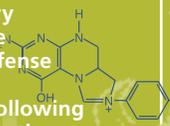
North Carolina has made retention, expansion and attraction of biomanufacturing plants a high priority for economic development in biotechnology.



statewide initiative. A mobile biotechnology laboratory outfitted with process equipment and an instructor will be deployed across the state to train industry workers and potential new hires. BioNetwork includes two funds for community colleges across the state to enhance their programs, laboratories and facilities in order to offer world-class work force education and training for the industry. Community colleges will apply for these funds through a competitive process based on demand.

The BioNetwork will also have dedicated space at the BTEC that includes a clean room/aseptic process laboratory suite, classrooms, and access to the large-scale biomanufacturing equipment and laboratories. The community colleges' Industrial Advisory Committee will oversee this initiative.

• Biotech industry responds to the need for biodefense research and development following the release of anthrax in the mail system and in government buildings.



• First BioWork course is offered at Vance-Granville Community College.

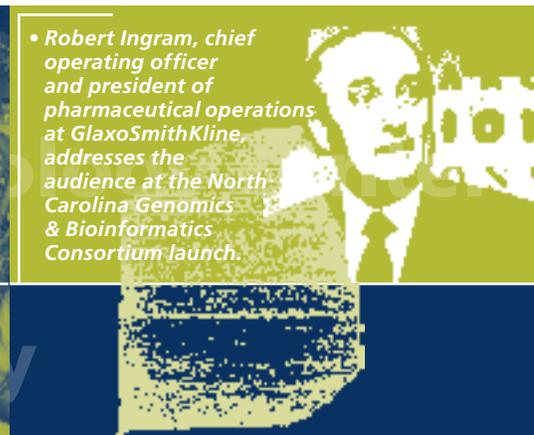
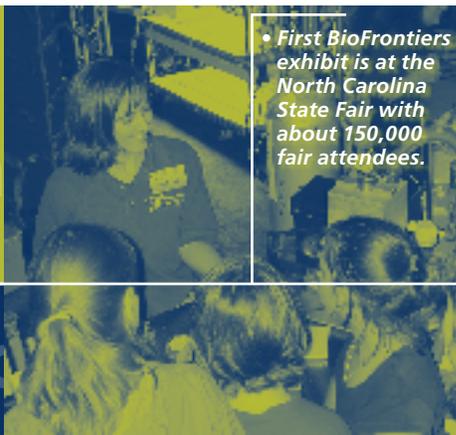
• First BioFrontiers exhibit is at the North Carolina State Fair with about 150,000 fair attendees.

• Robert Ingram, chief operating officer and president of pharmaceutical operations at GlaxoSmithKline, addresses the audience at the North Carolina Genomics & Bioinformatics Consortium launch.



BioWork

science of bio



New Jobs Across North Carolina

THE BIOTECHNOLOGY CENTER in February 2004 presented North Carolina Gov. Mike Easley a plan for growing the state's biotechnology industry and creating high-paying jobs. *New Jobs Across North Carolina: A Strategic Plan for Growing the Economy Statewide through Biotechnology* has as its goal for the state to have 48,000 biotechnology-related jobs by 2013 and 125,000 jobs by 2023.

The plan recommends 54 actions intended to:

- enhance the ability of universities to conduct innovative research and transform new ideas into commercial opportunity
- encourage universities to support and reward faculty entrepreneurial activities
- promote the creation and growth of biotechnology companies
- support the retention, expansion and attraction of biotechnology companies with an emphasis on biomanufacturing companies
- boost work force-training programs to prepare workers for jobs in research and biomanufacturing
- strengthen K-12 math and science education to help motivate and prepare future biotechnology workers
- spread the economic and societal benefits of biotechnology to all areas of the state
- address the societal and ethical issues of biotechnology research, development and application.



*Gov. Mike Easley (lectern) discusses **New Jobs Across North Carolina** at a news conference in Raleigh. He is joined on his right by state Revenue Secretary Norris Tolson and Biotechnology Center President and CEO Leslie Alexandre, and on his left by former Gov. Jim Hunt, UNC System President Molly Broad, N.C. Community College System President Martin Lancaster, and N.C. State Board of Education Chairman Howard Lee.*

- Researchers sequence the DNA of rice, the main food source for two-thirds of the world's population. It is the first crop to have its genome decoded.
- RNA is *Science* magazine's Breakthrough of the Year.

- Brookings Institution publishes *Signs of Life: The Growth of Biotechnology Centers in the U.S.*, a comprehensive analysis of biotech clusters.

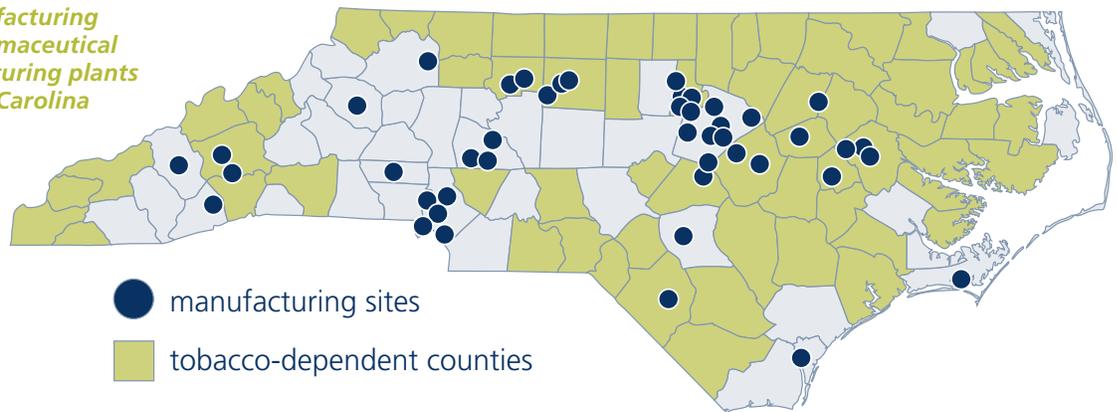
- Dr. Charles Hamner retires as president of the Biotechnology Center on March 31, 2002.
- Dr. Leslie Alexandre becomes president of the Biotechnology Center in August 2002.

- *The Genomic Revolution* exhibit at the North Carolina Museum of Natural Sciences is visited by almost 16,000 viewers.

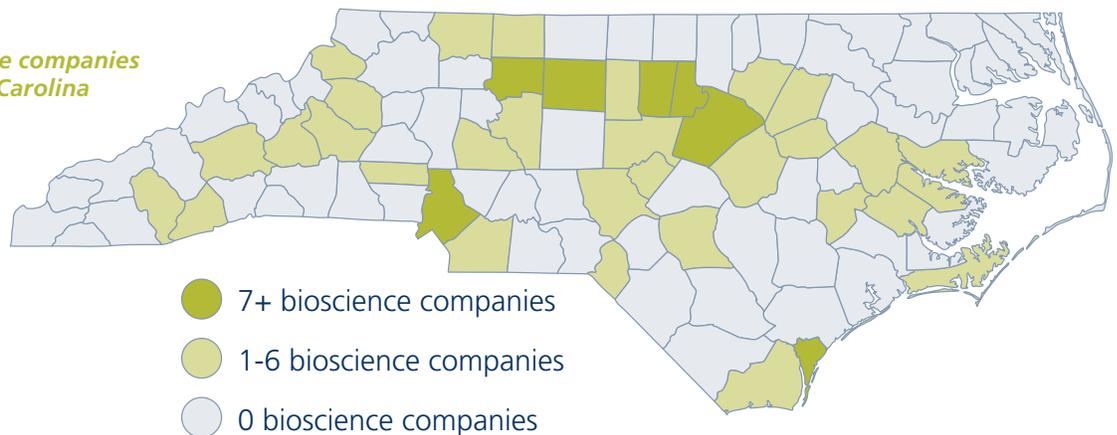


2002

Biomanufacturing and pharmaceutical manufacturing plants in North Carolina



Bioscience companies in North Carolina



The plan targets three immediate priorities for state investment:

- retention, expansion and attraction of biomanufacturing companies
- creation and attraction of biotechnology start-up companies
- development of biotechnology throughout the state

Many of these strategies will require large and sustained investment over several years to achieve their intended outcome. Others do not require state investment but do need the commitment and action of various partners across North Carolina's large and well-established biotechnology community.

The strategic plan is available on the Biotechnology Center's Web site at www.ncbiotech.org/strategicplan.

• Biogen and IDEC Pharmaceuticals, racing to develop drugs for cancer and other diseases, merge to create the third largest biotechnology company.

• *The Biotechnology Center's Piedmont Triad office opens in Winston-Salem.*

• *Trimeris, a start-up company funded by the Biotechnology Center that later went public, gains FDA approval of Fuzeon, a state-of-the-art AIDS treatment.*

2004

• *The Biotechnology Center's Western North Carolina office opens at Asheville-Buncombe Technical Community College.*

• *Strategic plan for biotechnology is presented to Governor Easley in February.*

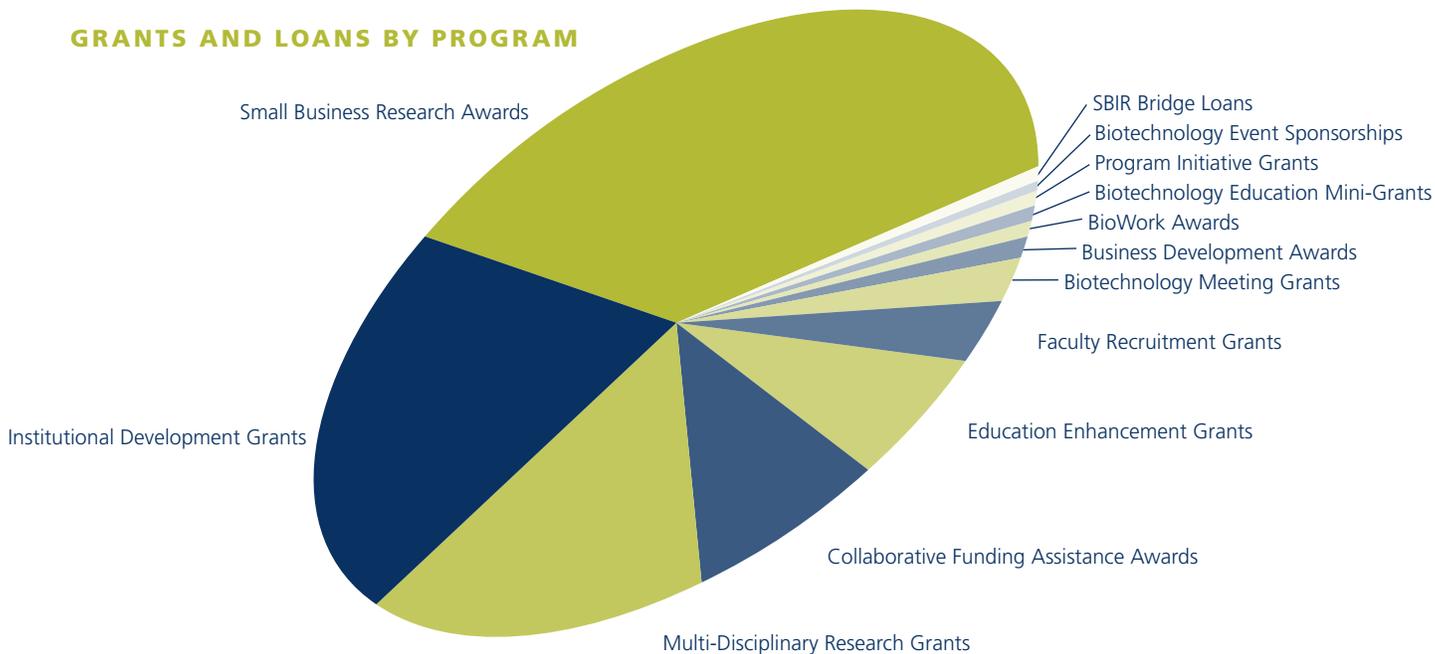
• *Merck breaks ground for a \$300 million vaccine-manufacturing plant in Durham.*

• *Biotechnology Center celebrates its 20th anniversary.*

2003

Grants and Loans Awarded In 2003-2004

GRANTS AND LOANS BY PROGRAM



The North Carolina Biotechnology Center awarded 68 grants and loans totaling \$3,205,767 to universities, companies and other organizations in the 2003–2004 fiscal year.

INSTITUTIONAL DEVELOPMENT GRANTS PROGRAM

The Biotechnology Center awarded six Institutional Development Grants totaling \$710,999.

East Carolina University, Greenville

- Dr. James E. Gibson, Pharmacology • \$78,719 • *“The Creation of an In Vitro Cell Culture Core Laboratory”*

North Carolina State University, Raleigh

- Dr. Fred Gould, Department of Entomology • \$112,000 • *“Upgrading the Capabilities of the College of Agriculture and Life Sciences Facility for DNA Marker Research”*

- Dr. Jay F. Levine, Farm Animal Health and Resource • \$152,379 • *“Establishment of an Aquatic Animal Biosecurity Laboratory”*

University of North Carolina at Chapel Hill

- Dr. Susan S. Smyth, Carolina Cardiovascular Biology Center • \$86,764 • *“Mouse Cardiovascular Pathophysiology Core Facility”*

University of North Carolina at Wilmington

- Dr. Daniel G. Baden, Department of Chemistry • \$48,806 • *“Acquisition of a JEOL SX-102 High Resolution Mass Spectrometer”*

Wake Forest University Health Sciences, Winston-Salem

- Dr. Al Claiborne, Department of Biochemistry • \$232,331 • *“Laboratory Automation and Single-Crystal Microspectroscopy Facility: The Center for Structural Biology at Wake Forest University”*

MULTI-DISCIPLINARY RESEARCH GRANTS PROGRAM

The Biotechnology Center awarded three Multi-Disciplinary Research Grants totaling \$530,000.

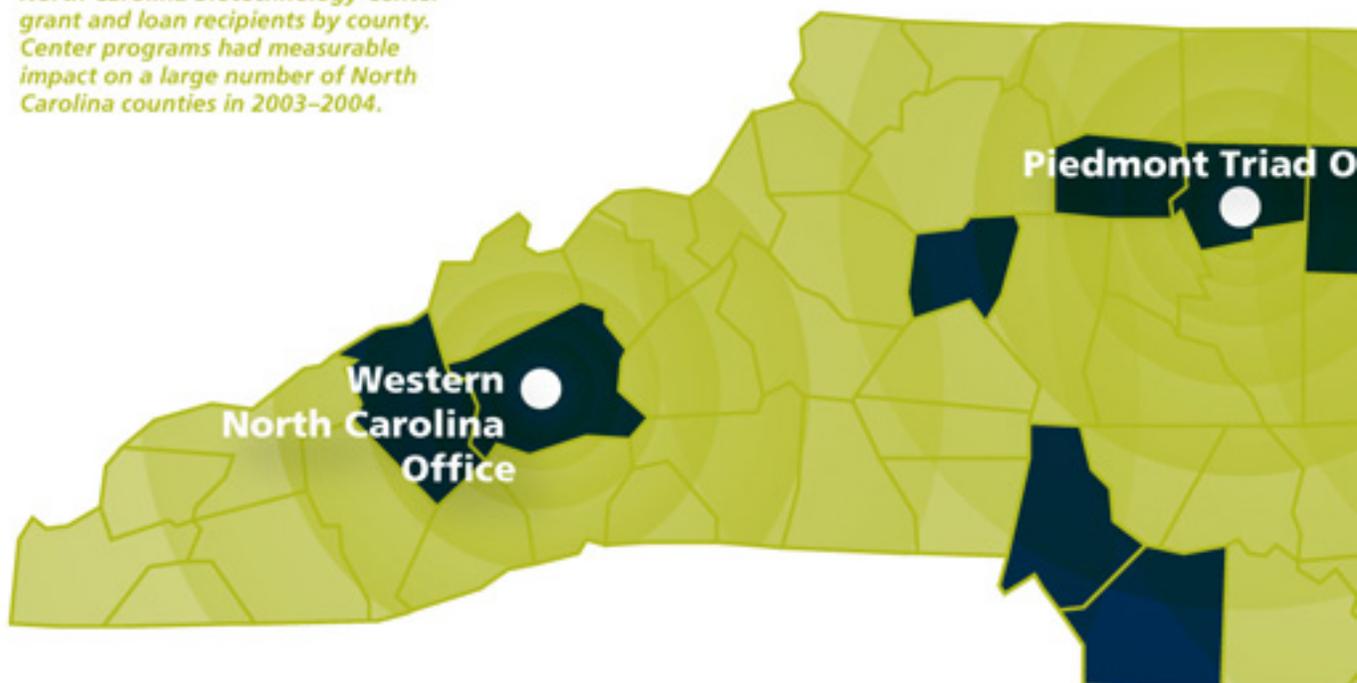
Duke University Medical Center, Durham

- Dr. Michael D. Ehlers, Neurobiology • \$250,000 • *“Separations Technologies for Neuroproteomics”*

East Carolina University, Greenville

- Dr. Alexander K. Murashov, Physiology • \$122,176 • *“Development of a Method for Treatment of Brain Injury Using Embryonic Stem Cells”*

North Carolina Biotechnology Center grant and loan recipients by county. Center programs had measurable impact on a large number of North Carolina counties in 2003–2004.



North Carolina State University, Raleigh, and University of North Carolina at Pembroke

- Dr. Peter K. Kilpatrick, Chemical Engineering • \$157,824 • "Recovery of High-value Nutraceuticals Using a Gas Anti-Solvent (GAS) Process"

COLLABORATIVE FUNDING ASSISTANCE AWARD PROGRAM

The Center awarded three Collaborative Funding Assistance Awards totaling \$250,000.

Carolinas Medical Center, Charlotte, and BreathQuant Medical Systems, Charlotte

- Dr. Jeffrey A. Kline, Department of Emergency Medical Research • \$100,000 • "Breath Condensate Analysis to Diagnose Pulmonary Embolism"

East Carolina University, Greenville, and Endacea, Research Triangle Park

- Dr. S. Jamal Mustafa, Department of Pharmacology • \$50,000 • "A Novel Drug for Asthma with Dual Action via A1 Ars"

University of North Carolina at Chapel Hill and Qualyst, Research Triangle Park

- Dr. Dhiren R. Thakker, Pharmacy • \$100,000 • "A High Throughput Assay for Cytochrome P450 Mediated Metabolism"

FACULTY RECRUITMENT GRANTS PROGRAM

The Center awarded one Faculty Recruitment Grant for \$100,000.

Wake Forest University, Winston-Salem

- Dr. Bradley T. Jones, Department of Chemistry • \$100,000 • "Associate Professor of Chemistry"

BIOTECHNOLOGY MEETING GRANTS PROGRAM

The Center awarded five Biotechnology Meeting Grants totaling \$19,500.

American Bar Association

- Shawn Taylor Kaminski • \$1,500 • "Working at the Frontiers of Law and Science: Applications of the Human Genome"

Duke University Medical Center, Durham

- Kimberly F. Johnson, Cancer Center • \$1,500 • "Critical Assessment of Microarray Data Analysis 2003"

Southeastern Life Sciences Association

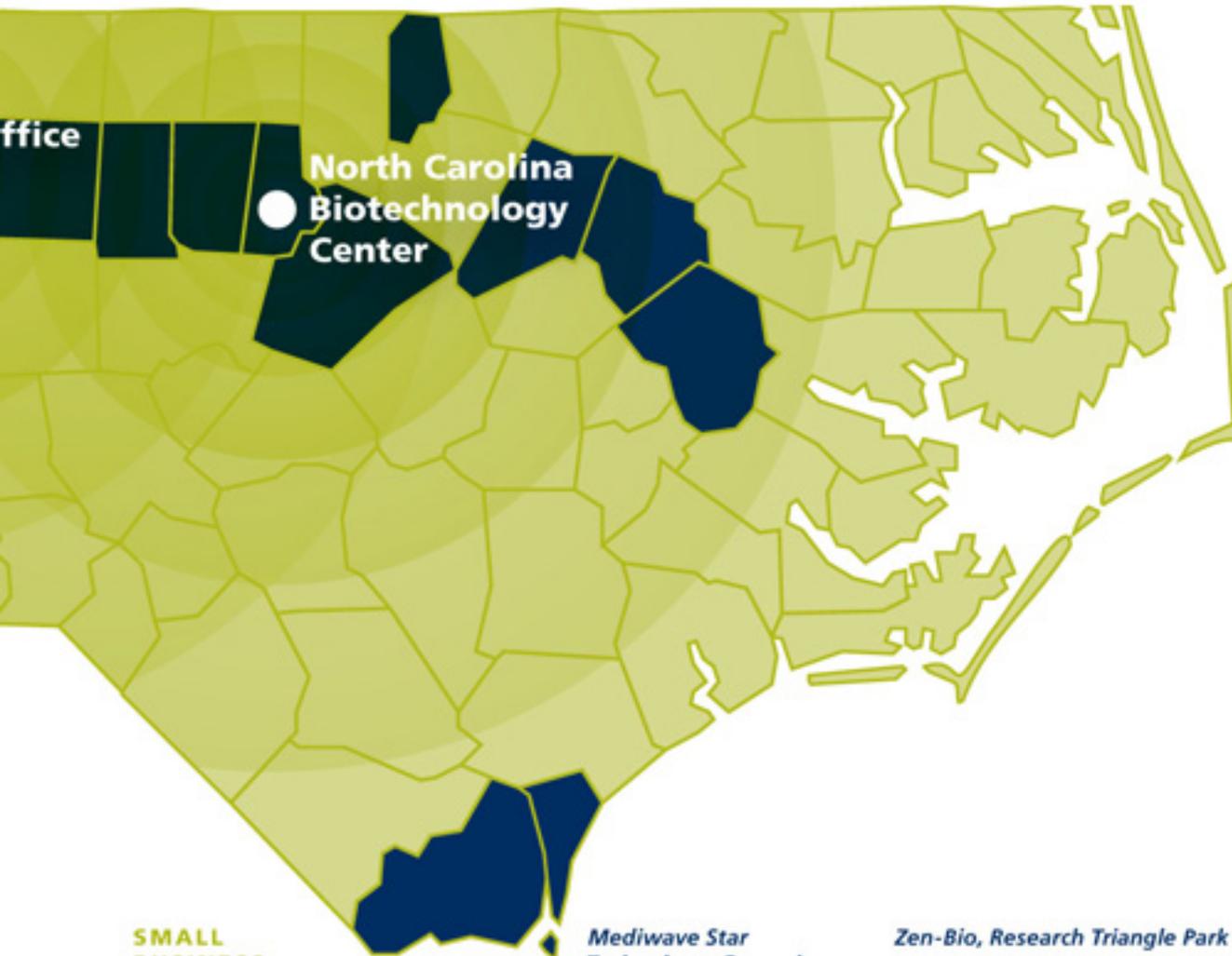
- Michael T. Constantino • \$5,000 • "SEBIO Fifth Annual Southeastern BIO Investor Forum"

Seven Springs Centers for International Understanding, Maggie Valley

- Aaron Etra • \$10,000 • "Third International Conference on Mechanisms of Action of Nutraceuticals (ICMAN)"

University of North Carolina at Wilmington

- Dr. Jeffrey Wright, Department of Chemistry • \$1,500 • "7th UNCW Symposium on Chemistry and Biochemistry"



SMALL BUSINESS RESEARCH AWARD PROGRAM

The Center awarded eight Small Business Research Awards totaling \$1,199,825.

Affinergy, Research Triangle Park

- Dr. Dale J. Christensen • \$149,825 • "Improved Antifouling Coatings for Catheters"

BioMarck Pharmaceuticals, Raleigh

- Dr. Indu Parikh • \$150,000 • "A Novel Approach for Treatment of Airway Mucus Hypersecretion"

Kucera Pharmaceutical Company, Winston-Salem

- Dr. Ronald A. Fleming • \$150,000 • "Preclinical Development of Anticancer, Anti-RSV, and Anti-SARS Compounds"

Mediwave Star Technology, Greensboro

- Dr. Joseph M. Starobin • \$150,000 • "A Study of Quantitative Measures of Ischemia Obtained by RR-QT and RR Fluctuations-RR Interval Hystereses within Proprietary Quasi-Stationary Exercise Protocol"

Oriel Therapeutics, Durham

- Dr. Anthony J. Hickey • \$150,000 • "Clinical Evaluation of Commercially Available Formoterol from the Oriel Inhaler"

Piedmont Pharmaceuticals, Greensboro

- Dr. William Campbell • \$150,000 • "Non-Insecticide Pediculosis Treatment Safety Studies"

Ribonomics, Durham

- Dr. William C. Phelps • \$150,000 • "Trapping Biological Pathways"

Zen-Bio, Research Triangle Park

- Dr. Renee Lea-Currie • \$150,000 • "Visceral Adipose Project"

SBIR BRIDGE FUND PROGRAM

The Center awarded one SBIR Bridge loan for \$75,000.

Kucera Pharmaceutical Company, Winston-Salem

- Dr. Ronald A. Fleming • \$75,000 • "Studies of KPC-2"

BUSINESS DEVELOPMENT AWARD PROGRAM

The Center awarded two Business Development Awards totaling \$30,000.

ArrayXpress, Raleigh

- Michael Zapata • \$15,000 • "ArrayXpress Marketing and Business Development"

BUSINESS DEVELOPMENT AWARD PROGRAM

The Biotechnology Center awarded two Business Development Awards totaling \$30,000.

ArrayXpress, Raleigh

- Michael Zapata • \$15,000 • "ArrayXpress Marketing and Business Development"

Asklepios Biopharmaceutical, Chapel Hill

- Sheila A. Mikhail • \$15,000 • "Commercialization of Adeno-Associated Virus Gene Therapy"

BIOTECHNOLOGY EVENT SPONSORSHIPS PROGRAM

The Biotechnology Center awarded 19 Biotechnology Event Sponsorships totaling \$20,875.

American Society of Mechanical Engineers

- Brandes Smith • \$1,500 • "2nd Annual Bioengineering Technology Seminar"

Association of Clinical Research Professions

- Sharon Hill Price • \$550 • "5th Annual Fall Conference: Risk Management and Resolve in Clinical Research"

Contemporary Science Center, Raleigh

- Pamela Blizzard • \$1,820 • "Entrepreneurs in Science Summer Camp"

Duke University, Durham

- Dr. Brigid Hogan, Cell Biology • \$1,500 • "Joint Duke/UNC/NC State Cell Biology & Genetics Retreat"

North Carolina A&T State University, Greensboro

- Dr. Mary A. Smith, Biology • \$1,500 • "Ninth Annual Life and Physical Sciences Research Symposium"
- Dr. Antoine J. Alston • \$500 • "NC A&T University Symposium on Biotechnology"

North Carolina Association for Biomedical Research, Raleigh

- Karen S. Hoffman • \$1,165 • "Animal Research/Animal Rights Issue Forum: Crisis Management and Communication"
- Suzanne C. Wood • \$1,000 • "The Science of Obesity: Prevention and Treatment"

North Carolina Small Business & Technology Development Center, Raleigh

- John P. Ujvari • \$1,500 • "Fourth Annual Southeastern SBIR/STTR Biotechnology-focused Conference"

North Carolina School of Science and Mathematics, Durham

- Dr. Steve Warshaw • \$1,000 • "North Carolina Student Academy of Science Statewide Competition"

North Carolina State University, Raleigh

- Dr. Peter W. Farin, Farm Animal Health and Resource • \$800 • "Animal Genomics Symposium"

QuickSTAT, Raleigh

- Jay Johnson • \$540 • "Awareness Training for Biopharmaceutical Shipping"

Triangle Consortium for Reproductive Biology, Research Triangle Park

- Dr. William C. Wetsel, Psychiatry • \$1,000 • "Reproductive Diseases"

University of North Carolina General Administration, Chapel Hill

- Rita Fuller • \$1,000 • "NC-MSEN Pre-College Program Leadership Retreat"

University of North Carolina at Chapel Hill

- Dr. Susan S. Smyth, Carolina Cardiovascular Biology Center • \$1,000 • "Carolina Cardiovascular Biology Update"
- Leslie H. Lang, Department of Medicine • \$500 • "UNC Neurodevelopmental Disorders Research Symposium"
- Dr. Shelton H. Earp, Department of Medicine • \$1,000 • "28th Annual Scientific Symposium, Chromatin, Epigenetics and Cancer"

University of North Carolina at Charlotte

- Mark S. Wdowik • \$1,500 • "2nd Annual Conference on Charlotte's Emerging Role in Biotechnology"
- Mark S. Wdowik • \$1,500 • "UNC Charlotte 5-Ventures 2004"

BIOWORK AWARD PROGRAM

The Biotechnology Center awarded five BioWork Awards totaling \$30,000.

Asheville-Buncombe Technical Community College, Enka

- Dr. Toby Mapes • \$10,000 • Asheville-Buncombe Technical Community College

Durham Technical Community College, Durham

- Phyllis Spray • \$5,000 • "Fall 2003 BioWork Course"
- Phyllis Spray • \$5,000 • "Spring 2004 BioWork Course"

Vance-Granville Community College, Henderson

- Dr. Garland Elliott • \$5,000 • "Spring 2004 BioWork Course"
- Laurie Button • \$5,000 • "Fall 2003 BioWork Course"

EDUCATION ENHANCEMENT GRANTS PROGRAM

The Biotechnology Center awarded eight Education Enhancement Grants totaling \$185,605.

Alamance Community College, Graham

- William H. Woodruff • \$7,900 • "Addition of Genomics, Proteomics and Bioinformatics into Existing Curricula"

Alexander Central High School, Taylorsville

- Pamela W. Johnston • \$18,200 • "Promoting Biotechnology in Alexander County Schools"

East Carolina University, Greenville

- Dr. Chia-yu Li, Department of Chemistry • \$32,250 • "GMP Education for Analytical Workers in the BioPharma Industry"

Elon University, Elon

- Dr. Linda M. Niedziela, Department of Biology • \$21,970 • "Enhancing Laboratory Experiences in the Cell and Molecular Courses in the Biology Curriculum"

Laboratories for Learning, Chapel Hill

- Dr. Andrew Rothschild • \$49,796 • "BioSummer Programs for Piedmont Triad and Eastern North Carolina"

Nash Community College, Rocky Mount

- Ginny Stokes • \$6,111 • "Merging Biotechnology into Existing Curriculum"

North Carolina State University, Raleigh

- Ignazio Carbone • \$44,378 • "Tutorials and Tools for Teaching and Training in Evolutionary Genomics"

Phillip O. Berry Academy of Technology, Charlotte

- Karen A. Jaeger • \$5,000 • "Design and Implementation of the Phillip O. Berry Academy of Technology Biotechnology Program"

BIOTECHNOLOGY EDUCATION MINI-GRANTS PROGRAM

The Biotechnology Center awarded six Biotechnology Education Mini-Grants totaling \$28,963.

South Elementary School, Mebane

- Sherril B. Barrett • \$4,800 • "Hands-On Science Lab"

Union County Schools, Monroe

- Nancy Addison • \$4,832 • "Introducing Biotechnology in High School Science Labs"

University of North Carolina at Chapel Hill, Morehead Planetarium and Science Center

- Robert Gotwals • \$4,940 • "Project DRUG: Drug Research Using Genomics"

Wake Forest University, Winston-Salem

- Angela G. King, Department of Chemistry • \$4,925 • "Rural Exposure to Biotechnology"

West Brunswick High School, Shallotte

- Mary Anne Gore • \$5,000 • "The Mystery of the Crooked Cell (The Diagnosis of a Hypothetical Sickle Cell Anemia Patient)"

Yadkin County Schools, Yadkinville

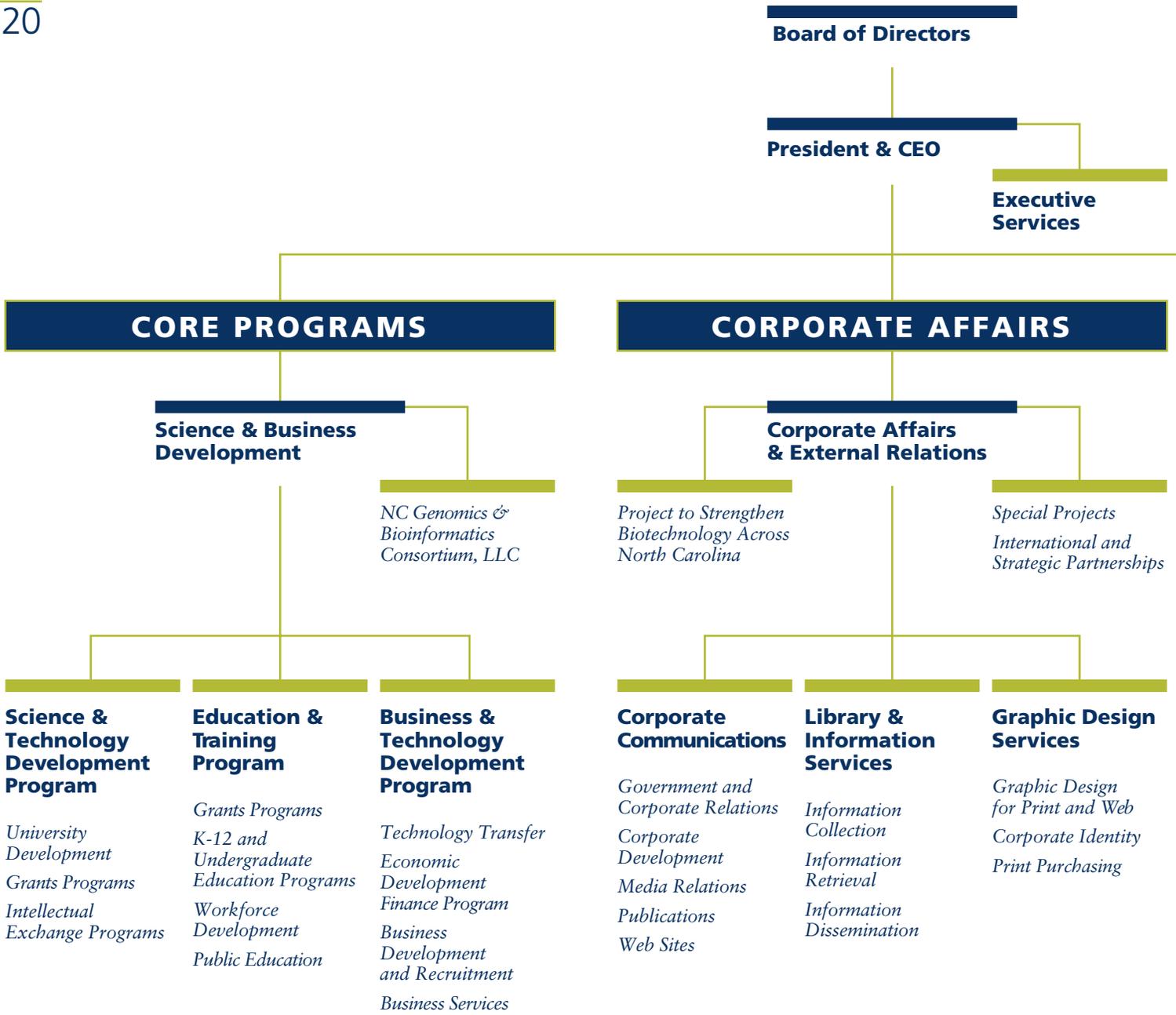
- Christine Browne Sardler • \$4,466 • "BIO Links Linking the Classroom to the Future"

PROGRAM INITIATIVE GRANTS PROGRAM

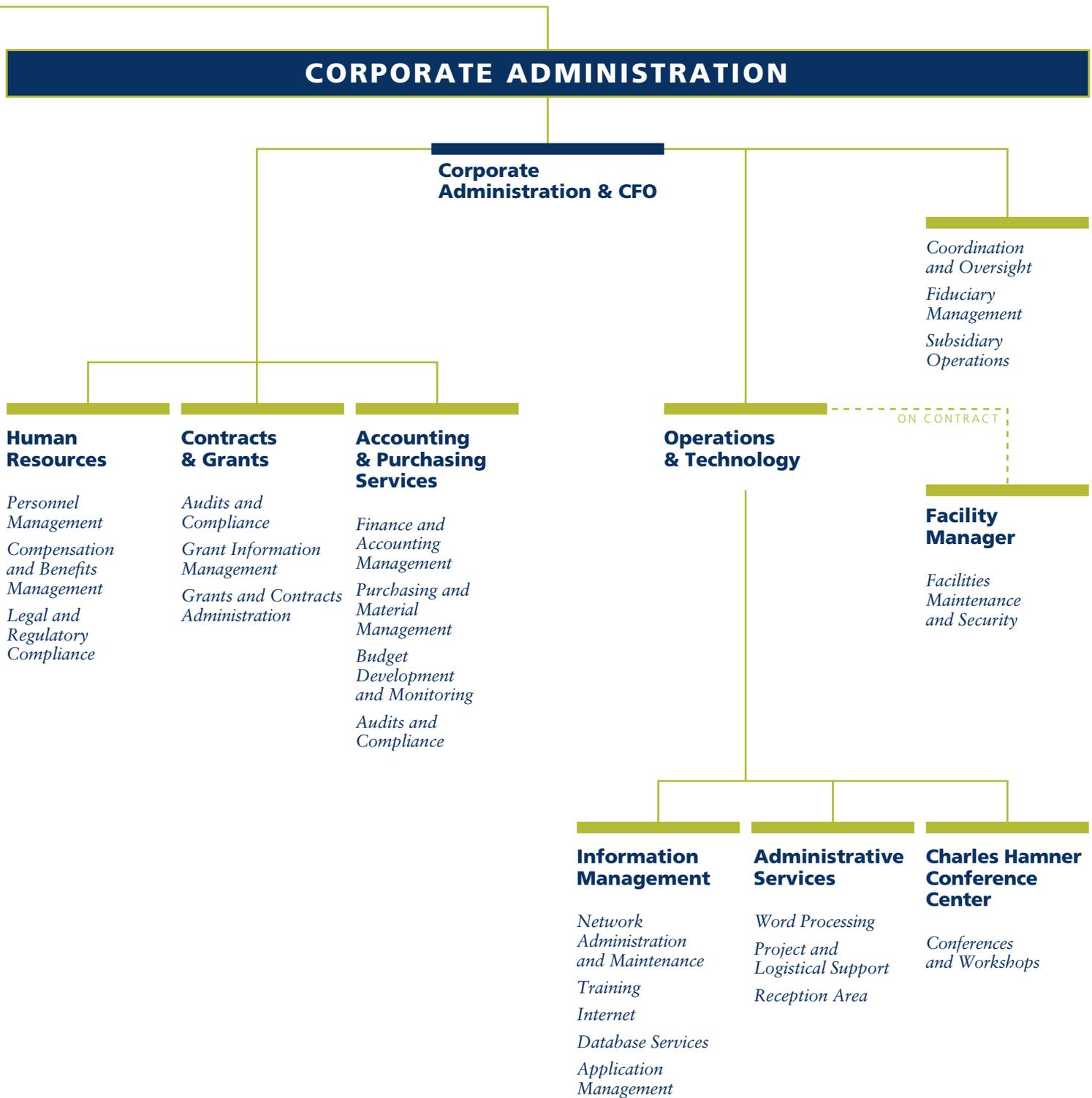
The Biotechnology Center awarded one Program Initiative Grant totaling \$25,000.

University of North Carolina at Asheville

- Dr. Linda L. Nelms, Management and Accountancy • \$25,000 • "Undergraduate Research in Biotechnology"



Members of the North Carolina Biotechnology Center staff congregate in the Glaxo Galleria for a 20th anniversary group photo.



Board of Directors

As of June 30, 2004

Leslie M. Alexandre, Dr.P.H

President and CEO
North Carolina
Biotechnology Center

John L. Atkins III

Treasurer, Board of Directors
President and CEO
O'Brien/Atkins Associates, PA

Robert M. Bell, Ph.D.

Life Sciences Venture Partner
Intersouth Partners

Molly Corbett Broad

President
University of North Carolina

John F.A.V. Cecil

President
Biltmore Farms, Inc.

John D. Chaffee

Executive Director
Pitt County Development Commission

W. Mark Crowell

Associate Vice Chancellor
for Economic Development
and Director of the Office
of Technology Development
University of North Carolina
at Chapel Hill

Stephanie E. Curtis, Ph.D.

Department of Genetics
Professor and Department Head
North Carolina State University

Richard H. Dean, M.D.

President and
Chief Executive Officer
Wake Forest University
Health Sciences

John F. Del Giorno

Vice President,
State Government Affairs
GlaxoSmithKline

James T. Fain III

Secretary, Department
of Commerce
State of North Carolina

Adele Fine

Principal
DocuSource of North Carolina

Heinrich Gugger, Ph.D.

President and CEO
Paradigm Genetics, Inc. (now Icoria)

Ken R. Harewood, Ph.D.

Director and Professor, Biomedical/
Biotechnology Research Institute
North Carolina Central University

John Jackson Hunt

Former Legislator

John A. Irick

Chief Business Officer
and Senior Vice President
Biolex, Inc.

Robert B. Jordan III

President
Jordan Lumber Company

H. Martin Lancaster

President
North Carolina Community College
System

Howard N. Lee

Chairman
North Carolina State Board
of Education

James G. Martin, Ph.D.

Corporate Vice President
Carolinas HealthCare System

William F. Marzluff, Ph.D.

Professor and Executive Associate,
Department of Biochemistry
and Biophysics
University of North Carolina
at Chapel Hill

Adnan M. Mjalli, Ph.D.

Founder, President and
Chief Executive Officer
TransTech Pharma, Inc.

William M. Moore, Jr.

Professor, Kenan-Flagler Business School
University of North Carolina
at Chapel Hill

Marvin Moss, Ph.D.

Professor, Department of Physics and
Physical Oceanography
University of North Carolina at
Wilmington

Arthur M. Pappas

Managing Partner
A.M. Pappas & Associates

Paul V. Phibbs, Jr., Ph.D.

Secretary, Board of Directors
Professor of Microbiology and
Immunology and Director
of Biotechnology Program
East Carolina University
School of Medicine

Milton Prince

President and CEO
Coastal Carolina Cotton Gins

James O. Roberson

President
Research Triangle Foundation
of North Carolina

Sallie Shuping Russell

Managing Director
Quellos Private Capital Markets, LLC

Christy L. Shaffer, Ph.D.

Chief Executive Officer
Inspire Pharmaceuticals, Inc.

James N. Siedow, Ph.D.

Vice Provost for Research
Duke University

Sam R. Sloan

Consultant

Robert S. Timmins, Sc.D.

Chairman, Board of Directors
Retired President, Organon Teknika

E. Norris Tolson

Secretary, Department of Revenue
State of North Carolina

Tim Valentine

Vice Chairman, Board of Directors
Former Member, U.S. House
of Representatives

Huntington F. Willard, Ph.D.

Professor, Department of Molecular
Genetics and Microbiology
Director, Institute for Genome Sciences
and Policy
Vice Chancellor for Genome Sciences
Duke University

Sandra Yankwich

Senior Manager, Third Party Contract
Management
GlaxoSmithKline

**STAFF TO THE BOARD
OF DIRECTORS**

Lori L. Greenstein

Assistant Secretary and Assistant
Treasurer
Corporate Administration
North Carolina Biotechnology Center

Robert W. Spearman

Counsel and Assistant Secretary
Parker, Poe, Adams & Bernstein L.L.P.

Financial Statements

INDEPENDENT AUDITORS' REPORT

***The Board of Directors
North Carolina Biotechnology Center and Subsidiaries:***

We have audited the accompanying consolidated statements of financial position of the North Carolina Biotechnology Center and Subsidiaries (the Center) as of June 30, 2004 and 2003, and the related consolidated statements of activities and changes in net assets and cash flows for the years then ended. These consolidated financial statements are the responsibility of the Center's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits.

We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the North Carolina Biotechnology Center and Subsidiaries as of June 30, 2004 and 2003, and the changes in their net assets and their cash flows for the years then ended in conformity with accounting principles generally accepted in the United States of America.

KPMG LLP

August 5, 2004

Consolidated Statements of Financial Position
June 30, 2004 and 2003

Assets	2004	2003
Cash	\$ 1,549,914	1,577,386
Investments	16,146,044	18,761,997
Receivables:		
Accrued interest receivable	1,041,471	719,747
Miscellaneous receivables	115,585	101,921
Receivable from North Carolina Bioscience Investment Fund	—	315
Contributions receivable	209,229	323,980
Loans receivable	1,075,000	475,000
Notes receivable	2,690,442	2,157,621
Allowance for uncollectible accrued interest, loans and notes receivable	(2,693,941)	(3,026,663)
Total receivables	2,437,786	751,921
Other assets	20,993	1,000
Property, plant, and equipment, net	4,391,908	4,604,186
Total assets	<u>\$ 24,546,645</u>	<u>25,696,490</u>
Liabilities and Net Assets		
Accounts payable and accrued expenses	\$ 150,071	114,500
Grants and contracts payable	3,808,748	3,516,913
Deferred revenues	76,742	77,900
Total liabilities	<u>4,035,561</u>	<u>3,709,313</u>
Net assets:		
Unrestricted net assets:		
Designated for specific purposes	19,550,704	20,978,412
Undesignated	721,577	644,422
Temporarily restricted	238,803	364,343
Total net assets	<u>20,511,084</u>	<u>21,987,177</u>
Total liabilities and net assets	<u>\$ 24,546,645</u>	<u>25,696,490</u>

See accompanying notes to consolidated financial statements.

Consolidated Statements of Activities and Changes in Net Assets
Years ended June 30, 2004 and 2003

	2004	2003
Unrestricted revenues, gains, and other support:		
Grants and contracts:		
State of North Carolina	\$ 5,790,727	6,284,673
Federal	47,083	—
Interest and dividends	502,284	349,939
Hamner Conference Center	378,432	343,332
Net realized and unrealized loss on investments	(276,953)	(5,630,368)
Net (loss) gain on sale of property and equipment	(3,159)	995
Other, net	117,855	362,097
Net assets released from restrictions	307,479	309,821
Total unrestricted revenues, gains, and other support	<u>6,863,748</u>	<u>2,020,489</u>
Expenses and losses:		
Science and technology development:		
Institutional development grants	808,686	1,191,590
Multidisciplinary research grants	530,000	—
Collaborative funding program	162,155	764,997
Academic research initiation grants	(13,840)	(9,552)
Hamner Conference Center	533,721	498,489
Library and information services	309,769	281,180
Satellite offices	238,995	45,481
Economic development loan programs	236,429	144,030
Education and training program grants	235,131	227,201
Work force training project	207,047	110,800
Other programs	185,732	4,000
Intellectual exchange activities	64,641	49,388
Biotechnology event grants/sponsorships	30,154	29,933
Genomics and bioinformatics program	18,756	27,022
Biomanufacturing work force assessment	—	250,120
Forest biotechnology initiative	—	100,000
Public HMU program initiative	—	(77,901)
Program management	2,849,575	2,810,662
General and administrative	1,817,350	1,790,268
Total expenses and losses	<u>8,214,301</u>	<u>8,237,708</u>
Change in unrestricted net assets	(1,350,553)	(6,217,219)
Temporarily restricted revenues:		
Contributions	181,939	573,952
Net assets released from restrictions	(307,479)	(309,821)
Change in temporarily restricted net assets	<u>(125,540)</u>	<u>264,131</u>
Change in total net assets	(1,476,093)	(5,953,088)
Net assets, beginning of year	<u>21,987,177</u>	<u>27,940,265</u>
Net assets, end of year	<u>\$ 20,511,084</u>	<u>21,987,177</u>

See accompanying notes to consolidated financial statements.

Consolidated Statements of Cash Flows
Years ended June 30, 2004 and 2003

	2004	2003
Cash flows from operating activities:		
Change in total net assets	\$ (1,476,093)	(5,953,088)
Adjustments to reconcile change in total net assets to net cash used by operating activities:		
Depreciation	288,223	294,849
Net loss (gain) on sale of property and equipment	3,159	(995)
Net realized and unrealized loss on investments	276,953	5,630,368
Program management expenses associated with the North Carolina Bioscience Investment Fund	205,644	215,596
Increase (decrease) in cash due to changes in:		
Notes and loans receivable	(1,132,821)	(378,153)
Allowance for uncollectible accrued interest, loans and notes receivables	(332,722)	178,153
Accrued interest receivable	(321,724)	11,803
Contributions receivable	114,751	(323,980)
Miscellaneous receivables	(13,349)	27,463
Other assets	(19,993)	7,213
Accounts payable and accrued expenses	35,571	(10,450)
Grants and contracts payable	291,835	(539,522)
Deferred revenues	(1,158)	(1,067,581)
Net cash used by operating activities	<u>(2,081,724)</u>	<u>(1,908,324)</u>
Cash flows from investing activities:		
Proceeds from sale of property and equipment	—	1,145
Purchase of property and equipment	(79,104)	(25,303)
Proceeds from sale of investments	137,349,689	86,310,541
Purchase of investments	<u>(135,216,333)</u>	<u>(83,597,448)</u>
Net cash provided by investing activities	<u>2,054,252</u>	<u>2,688,935</u>
Net (decrease) increase in cash	(27,472)	780,611
Cash, beginning of year	1,577,386	796,775
Cash, end of year	<u>\$ 1,549,914</u>	<u>1,577,386</u>

See accompanying notes to consolidated financial statements.

(I) Organization and Summary of Significant Accounting Policies

(a) Organization and Purpose

The North Carolina Biotechnology Center (the Center) was incorporated in 1984 for the purpose of furthering economic development in North Carolina through education, research and commercial development in biotechnology. The Center aids the biotechnology-related efforts of researchers, businesses, state and federal governments, and other agencies primarily through awards of research grants restricted to specific programs.

The North Carolina Bioscience Ventures, LLC (Ventures) is a wholly owned subsidiary of the Center which is used to account for a special \$10 million appropriation to the Center from the State of North Carolina. The purpose of the appropriation and establishment of Ventures is to promote the development of the bioscience industry in North Carolina. The appropriation remains in Ventures until funds are drawn down by the North Carolina Bioscience Investment Fund, LLC (BIF). The BIF is responsible for investing funds of the Center along with funds from other investors into portfolio companies.

The North Carolina Genomics and Bioinformatics Consortium, LLC (Consortium) is a wholly owned subsidiary of the Center. The purpose of the Consortium is to bring together the key elements of research, development, commercialization and support infrastructure in North Carolina that use or develop genomics, proteomics or bioinformatics in order to plan strategic research and development initiatives, and build infrastructure, synergy and community among its associates.

(b) Basis of Accounting and Presentation

The consolidated financial statements have been prepared using the accrual basis of accounting.

Net assets and revenues, expenses, gains and losses are classified based on the existence or absence of donor-imposed restrictions. Accordingly, net assets of the Center and changes therein are classified and reported as follows:

Unrestricted net assets — Net assets that are not subject to donor-imposed stipulations.

Temporarily restricted net assets — Net assets subject to donor-imposed stipulations that may or will be met either by actions of the Center and/or the passage of time.

Revenues are reported as increases in unrestricted net assets unless use of the related asset is limited by donor-imposed restrictions. Expenses are reported as decreases in unrestricted net assets. Gains and losses are reported as increases or decreases in unrestricted net assets unless their use is restricted by explicit donor stipulation or by law. Expirations of temporary restrictions on net assets (i.e., the donor-stipulated purpose has been fulfilled and/or the stipulated time period has elapsed) are reported as reclassifications between the applicable classes of net assets.

(c) Principles of Consolidation

The consolidated financial statements include the financial statements of the North Carolina Biotechnology Center and its wholly owned subsidiaries. All significant intercompany balances and transactions have been eliminated in consolidation.

(d) Significant Accounting Policies

The following significant accounting policies have been used in the preparation of the consolidated financial statements:

Cash and Investments

The Center invests funds not immediately needed for day-to-day operations in short-term investments, primarily certificates of deposit and commercial paper, consistent with guidelines established by the board of directors. These guidelines require that the Center invest only in certain financial instruments considered to be both conservative and adequately diversified. The Executive Committee and The Equity Investment Committee periodically review the Center's investment portfolio.

The equity method of accounting is used to account for certain equity investments where the Center's ownership is considered to be more than minor, but less than 50%. Equity investments include private equity investments in biotechnology/bioscience companies and venture capital funds.

Investments are generally recorded at fair value. In the case of certain less marketable investments, principally private equity investments which are not accounted for on the equity method, investments are carried at the lower of cost or fair value. For these less marketable securities, the determination of fair value requires the use of estimates. Because of the inherent uncertainty in the use of estimates, fair values that

are based on estimates may differ from the fair values that would have been used had a ready market for the investments existed.

Under a profit sharing agreement with the State of North Carolina, the Center and the State will share equally the net profits in excess of \$150,000 on any individual investment made with State funds by the Center after July 1, 1997. There were no net profits on any of the Center's investments in 2004 and 2003 which exceeded the \$150,000 threshold.

Receivables

Through its Economic Development Finance Program, the Center supports research and development projects of young and growing biotechnology/bioscience companies that may not yet qualify for conventional forms of financial assistance. Since 1988, most awards to companies have been in the form of notes, and all amounts, including interest, are to be repaid in full within one to seven years of the date of the notes. Management has considered each company's ability to repay the notes, loans and accrued interest, including the financial condition of the company and the repayment terms of the note, and has recorded an allowance for uncollectible receivables. The allowance for uncollectible accrued interest, loans and notes receivable totaled \$2,693,941 and \$3,026,663 at June 30, 2004 and 2003, respectively. The Center's other receivables are considered to be fully collectible.

Property, Plant, and Equipment

Property, plant, and equipment are recorded at cost. Depreciation is provided using the straight-line method over the estimated useful lives of five years for furniture, fixtures and equipment and thirty years for the Center's permanent headquarters.

Recognition of Grant Awards and Grants Payable

Grant awards and the corresponding grants payable are recognized at the time the grant award is approved by the Executive Committee of the board of directors.

Net Assets

Certain unrestricted net assets have been designated for specific purposes by the board of directors. At June 30, 2004 and 2003, unrestricted net assets designated for specific purposes consisted of the following:

	2004	2003
Fixed assets	\$ 4,391,908	4,604,186
Building renovations and repairs	2,528,956	3,696,304
Future economic development investment	3,236,227	4,752,661
Stocks and equity investments	7,941,510	6,823,977
Other	1,452,103	1,101,284
	<u>\$ 19,550,704</u>	<u>20,978,412</u>

Temporarily restricted net assets are available for the following purposes at June 30, 2004 and 2003:

	2004	2003
Satellite offices	\$ 152,945	273,835
Work force assessment	—	643
Intellectual exchange activities	85,858	89,865
	<u>\$ 238,803</u>	<u>364,343</u>

Net assets were released from donor restrictions by incurring expenses satisfying the restricted purposes or by the passage of time. In 2004, purpose restrictions were accomplished by incurring \$307,479 in expenses for the set-up of satellite offices and holding events and meetings. In 2003, purpose restrictions were accomplished by incurring \$309,821 in expenses for the set-up of satellite offices, holding events and meetings, and the preparation of a work force assessment report with funds received from Golden LEAF (Long-term Economic Advancement Foundation).

Contributions

Contributions, including unconditional promises to give, are recognized as revenues in the period received. Conditional promises to give are not recognized until they become unconditional, that is, when the conditions on which they depend are substantially met. Contributions of assets other than cash are recorded at their estimated fair value.

Recognition of Funding

Funds are granted periodically from private and public agencies for specific purposes or to aid the Center's general operation and sustain its continued existence. Funds appropriated for specific purposes are deemed to be earned and reported as revenue when the Center has incurred expenditures in compliance with the grant agreement. Such amounts received, but not yet earned, are reported as deferred revenues.

The Center received 81% and 82% of its unrestricted revenues from the State of North Carolina in 2004 and 2003, respectively.

Functional Allocation of Expenses

The costs of providing the various programs and activities of the Center have been summarized on a functional basis in the statements of activities and changes in net assets. Certain general and administrative expenses totaling \$902,328 and \$931,489 for the years ended June 30, 2004 and 2003, respectively, have been allocated among the programs and activities benefited.

Income Taxes

The Center is exempt from federal income taxes on related income under Internal Revenue Code 501(a) as an organization described in Section 501(c)(3). Accordingly, no provision for income taxes has been made. As single member limited liability companies, Ventures and the Consortium are disregarded entities for income tax purposes.

Use of Estimates

The preparation of the consolidated financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Reclassifications

Certain reclassifications have been made to the 2003 consolidated financial statements to conform to the 2004 presentation. These reclassifications had no change on total net assets or the change in net assets as previously reported.

(2) Investments

The aggregate values of investments at June 30, 2004 and 2003 were as follows:

2004				
	Cost	Gross unrealized gains	Gross unrealized losses	Fair value
Cash equivalents	\$ 3,080,088	—	—	3,080,088
Certificates of deposit	1,000,000	—	—	1,000,000
Stocks	211,392	—	(189,258)	22,134
Fixed income	8,350,000	—	—	8,350,000
BIF	7,673,135	—	(4,925,802)	2,747,333
Equity investments	1,592,857	—	(646,368)	946,489
	<u>\$ 21,907,472</u>	<u>—</u>	<u>(5,761,428)</u>	<u>16,146,044</u>

2003				
	Cost	Gross unrealized gains	Gross unrealized losses	Fair value
Cash equivalents	\$ 5,902,352	—	—	5,902,352
Certificates of deposit	1,750,000	—	—	1,750,000
Stocks	299,628	—	(238,715)	60,913
Fixed income	6,367,429	—	—	6,367,429
BIF	8,408,067	—	(4,925,802)	3,482,265
Equity investments	1,868,150	—	(669,112)	1,199,038
	<u>\$ 24,595,626</u>	<u>—</u>	<u>(5,833,629)</u>	<u>18,761,997</u>

The BIF represents Ventures' equity-method investment in the North Carolina Bioscience Investment Fund, LLC. In 2004, the Ventures' share of the BIF's net loss totaled (\$205,644) which is recorded in the consolidated statements of activities and changes in net assets as program management expense. In 2003, the Ventures' share of the BIF's net loss totaled (\$5,480,485) which is recorded in the consolidated statements of activities and changes in net assets as an unrealized loss of (\$5,264,861) and program management expense of (\$215,596).

In connection with Economic Development Finance awards, the Center receives the right to purchase stock in various biotechnology/bioscience companies. As of June 30, 2004, the Center received warrants to purchase 493,816 common shares and 42,500 preferred shares with exercise prices ranging from \$0.30 to \$600 per share. These warrants expire at various dates through 2014. Management has determined the value of the warrants to be immaterial and, accordingly, they are not reflected in the consolidated financial statements.

As of June 30, 2004, the Center has capital contribution commitments to the BIF and various venture capital funds totaling \$842,616. These funds will be invested in future years as capital calls are made by the various venture capital fund managers.

(3) Loans and Notes Receivable

Loans and notes receivable at June 30, 2004 and 2003 consisted of the following:

	2004	2003
Loans receivable:		
Loan receivable dated October 15, 1998 from Eno River Capital, L.L.C. Interest is payable along with the principal in one lump sum on October 15, 2005. Interest rate is 6.25% per year on the unpaid principal balance.	\$ 75,000	75,000
Loan receivable dated April 10, 2003 from KBI BioPharma, Inc. Interest is payable quarterly at a rate of 5% of the outstanding loan balance. Principal is due and payable in one lump sum on or before April 10, 2006.	1,000,000	400,000
Total loans receivable	<u>1,075,000</u>	<u>475,000</u>
Notes receivable:		
Notes receivable from various state biotechnology companies under Economic Development Finance awards. Interest rates on these notes vary from 6.50% to 8.25%. Generally, principal and interest are payable one to five years from the execution of the note. Due dates are in 2006.	193,887	481,261
Notes receivable from various state biotechnology companies under Small Business Innovation Research awards. Interest rates on these notes vary from 4.00% to 10.50%. Generally, principal and interest are payable one to five years from the execution of the note. Due dates range from 2006 to 2009.	206,417	106,213
Notes receivable from various state biotechnology companies under Business Development Awards. Interest rates on these notes vary from 5.50% to 11.00%. Generally, principal and interest are payable one to three years from the execution of the note. Due dates range from 2003 to 2007.	117,512	109,974
Notes receivable from various state biotechnology companies under Small Business Research Awards. Interest rates on these notes vary from 4.00% to 5.5%. Generally, principal and interest are payable one to five years from execution of the note. Due dates range from 2006 to 2009.	2,093,582	1,374,395
Notes receivable from various state universities under Patent Funding Assistance awards. These notes bear a flat interest fee of \$2,000. Principal and interest are payable upon transfer, assignment, or license of patent for compensation.	23,583	23,583
Notes receivable from various state universities under Proof of Principle Awards. Generally, principal and interest are payable within seven years, if the technology or intellectual property is sold, transferred, assigned or licensed. However, there is no interest if paid in the first year.	55,461	62,195
Total notes receivable	<u>2,690,442</u>	<u>2,157,621</u>
Less allowance for uncollectible loans and notes receivable	<u>(1,943,499)</u>	<u>(2,357,621)</u>
Loans and notes receivable, net	<u>\$ 1,821,943</u>	<u>275,000</u>

(4) Contributions Receivable

Contributions receivable consisted of the following at June 30, 2004 and 2003:

	2004	2003
Unconditional promises expected to be collected in:		
Less than one year	\$ 209,229	195,364
One year to five years	—	128,616
	<u>\$ 209,229</u>	<u>323,980</u>

(5) Property, Plant, and Equipment

A summary of property, plant, and equipment at June 30, 2004 and 2003 follows:

	2004	2003
Building	\$ 7,305,069	7,305,069
Furniture, fixtures, and equipment	1,394,942	1,388,981
	<u>8,700,011</u>	<u>8,694,050</u>
Less accumulated depreciation	(4,308,103)	(4,089,864)
Property, plant, and equipment, net	<u>\$ 4,391,908</u>	<u>4,604,186</u>

(6) Grants and Contracts Payable

The Center has committed grants and contracts to various research programs, primarily through major universities and biotechnology companies located in North Carolina. Grants and contracts payable at June 30, 2004 are expected to be paid as follows:

	TOTAL
2005	\$ 3,119,633
2006	689,115
	<u>\$ 3,808,748</u>

(7) Interest and Dividend Income

Interest and dividend income of \$166,837 and \$265,594 was earned during the years ended June 30, 2004 and 2003, respectively, primarily by investing in certificates of deposit and commercial paper. Interest income on notes and loans receivable in 2004 and 2003 totaled \$335,447 and \$84,345, respectively.

(8) Benefit Plans

The Center has a defined contribution money purchase pension plan covering all qualified employees who have completed one year of service. The Center's contribution is 11.00% of pre-tax compensation for eligible employees. Employees are fully vested in the plan assets upon participation. Approximately \$251,000 and \$228,000 was contributed to the plan during the years ended June 30, 2004 and 2003, respectively. The plan is self-directed, with the majority of participants electing mutual funds. Additionally, after six months of employment, all regular employees are eligible to participate in a 403(b)(7), tax-deferred supplemental retirement plan. Participants may contribute subject to prevailing Internal Revenue Service regulations.

(9) Operating Leases

The Center has acquired the right to use the land on which its building is constructed through an operating lease agreement which expires on December 31, 2089 with another nonprofit organization, the Triangle Universities Center for Advanced Studies, Inc. (TUCASI). Title to the land remains with TUCASI.

Payments to TUCASI under the agreement are at the nominal rate of \$1 per year, and the Center pays all costs of insurance, taxes, and maintenance as defined in the lease agreement.

(10) Related Parties

Certain members of the Board of Directors of the Center are affiliated with funds and companies invested in by the Center.



**North Carolina
Biotechnology Center**

15 T.W. ALEXANDER DRIVE • P.O. BOX 13547
RESEARCH TRIANGLE PARK, N.C. 27709-3547

www.ncbiotech.org • www.hamnercenter.org • www.ncgbc.org