

North Carolina Biotechnology Center



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LETTER FROM THE PRESIDENT AND CHAIRMAN

Positioning North Carolina to Capture Jobs in Biotechnology

THIS YEAR WAS AN EXCITING ONE for the North Carolina Biotechnology Center and the state's biotechnology community. Highlights included the opening of two Center satellite offices to serve the Piedmont Triad and western North Carolina, a \$60 million funding commitment by the Golden LEAF to train workers statewide for the fast-growing biomanufacturing and pharmaceutical manufacturing industries, and a \$1 million loan from the Center to attract a new contract biomanufacturing company to North Carolina. These positive developments were capped by a surprise luncheon keynote address by Governor Easley at North Carolina's Biotech 2003 event. The energy and enthusiasm radiating from nearly 800 attendees was palpable!

This summer, North Carolina distinguished itself as a worldwide leader in workforce development for biotechnology when it announced plans to invest \$64.5 million in the creation of a statewide, integrated training network for biomanufacturing and pharmaceutical workers. In addition to the Golden LEAF's \$60 million investment, the North Carolina Biosciences Organization pledged up to \$4.5 million in in-kind contributions of equipment, professional services, and other resources from its member companies to support the training program.

The Center was instrumental to the planning of this groundbreaking initiative by surveying biomanufacturers and pharmaceutical companies in the state regarding their current and future employment requirements. By showing that the



ALEXANDRE



TIMMINS

THIS SUMMER, NORTH CAROLINA DISTINGUISHED ITSELF AS A WORLDWIDE LEADER IN WORKFORCE DEVELOPMENT FOR BIOTECHNOLOGY WHEN IT ANNOUNCED PLANS TO INVEST \$64.5 MILLION IN THE CREATION OF A STATEWIDE, INTEGRATED TRAINING NETWORK FOR BIOMANUFACTURING AND PHARMACEUTICAL WORKERS.

Despite state budget deficits and a very challenging funding environment in 2003, the Center was successful in stabilizing and even increasing slightly our state appropriation. We also made great progress on our other stated priorities of attracting more venture capital to support emerging companies, building a skilled workforce for biomanufacturing, and spreading the benefits of biotechnology across North Carolina.

The Center invested a total of \$50,000 in three new North Carolina venture capital funds, enabling them to use the Qualified Business Venture (QBV) tax credit as a tool to help raise millions of dollars more from individual investors. (This is a typical example of how the Center is able to leverage its funds to attract much larger investments to North Carolina.) We also co-sponsored two major events that gave North Carolina entrepreneurs a chance to present their companies' plans to national and international investors: the Council for Entrepreneurial Development's 20th annual Venture conference in Chapel Hill and the Southeast BioInvestor Forum in Atlanta.

growth of new jobs as well as turnover in existing companies could require between 2,000 and 3,000 new workers a year, the survey helped persuade State leaders and the Golden LEAF that this was an investment worth making. The survey also identified specific training requirements for every position in biomanufacturing plants, which will help guide future curriculum development.

The state's strong commitment to workforce training and its supportive life sciences infrastructure helped to persuade KBI BioPharma, Inc, to build its contract biomanufacturing facility in North Carolina. Financial backing in the form of a \$1 million loan from the Center closed the deal. Similar considerations have placed North Carolina on the "short list" of sites being considered for a number of large pharmaceutical manufacturing projects expected to be decided relatively soon.

The manufacturing of biological and pharmaceutical products is an ideal industry for North Carolina, not only because it creates clean, safe, high-paying jobs, but also because those jobs can be located in more rural parts of the state. Efforts

North Carolina is a worldwide leader in agricultural biotechnology and is second nationally to California. Three of the world's largest agricultural chemical companies — BASF, Bayer CropScience and Syngenta — have major biotechnology R&D facilities in the state. Smaller, entrepreneurial ag biotech companies such as Athenix, Biolex, Cropsolution, Embrex and Paradigm Genetics are also thriving in the state. Altogether, North Carolina is home to 13 ag biotech companies that employ about 2,500 people.

in those regions to develop jobs based on life sciences and biotechnology are being aided by new Center satellite offices in the Piedmont Triad and western North Carolina. Currently funded by their respective communities, these satellite offices are working to identify regional niche opportunities, assess and strengthen local capabilities, recruit and grow companies, and facilitate interactions between academics, government agencies, industry and economic developers. If resources are available, we plan to open two more satellite offices in the latter half of 2004, in Charlotte and in eastern North Carolina.

Next year promises to be even busier and more exciting than 2003. In June 2003, Governor Easley charged the Center with leading a statewide effort

ians representing every facet of biotechnology development, the plan will be completed by the end of 2003.

We appreciate the vote of confidence in the Center by the Governor, and we thank all of the participants for contributing their time, talent and creativity to the strategic planning process. We also thank the Golden LEAF for providing a grant to help fund the plan's development. The Center looks forward to working with the Governor, Council of State, General Assembly and all of our partners in biotechnology development across North Carolina to implement the strategic priorities identified in the plan in the new year. Our state's economic development potential and prosperity depend on it.

THE MANUFACTURING OF BIOLOGICAL AND PHARMACEUTICAL PRODUCTS IS AN IDEAL INDUSTRY FOR NORTH CAROLINA, NOT ONLY BECAUSE IT CREATES CLEAN, SAFE, HIGH-PAYING JOBS, BUT ALSO BECAUSE THOSE JOBS CAN BE LOCATED IN MORE RURAL PARTS OF THE STATE. EFFORTS IN THOSE REGIONS TO DEVELOP JOBS BASED ON LIFE SCIENCES AND BIOTECHNOLOGY ARE BEING AIDED BY NEW BIOTECHNOLOGY CENTER SATELLITE OFFICES IN THE PIEDMONT TRIAD AND WESTERN NORTH CAROLINA.

to develop a strategic plan to guide future state investments in biotechnology development. Guided by a blue-ribbon steering committee co-chaired by former Governors Hunt and Martin, and shaped with input from more than 120 North Carolin-

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

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

BIOTECHNOLOGY:**What It Is and Why It's Important**

BIOTECHNOLOGY IS CREATING NEW wealth, jobs, and products that are improving our quality of life and North Carolina's economy. Look around North Carolina, and you will see biotechnology at work. In Asheville, an HIV patient takes a promising new drug developed by a Durham biotechnology company. A poultry farmer in Greenville uses a vaccine-delivering injection system to increase the quality and production of his chickens' eggs. In Charlotte, a homemaker uses laundry detergent containing stain-cutting enzymes produced at a plant in Franklinton. A multiple sclerosis patient in Winston-Salem takes a genetically engineered drug made in Research Triangle Park to slow the progression of her disability. In the port of Wilmington a cargo ship uses

North Carolina is well suited to gain from biotechnology. Its traditional industries — especially agriculture, manufacturing and health care — are the very ones that biotechnology can most enhance. North Carolina also has the necessary resources to develop biotechnology, including a tradition of technological development, three large research parks, leading research universities, four medical schools, major federal research labs, a progressive business climate, long-term governmental support, an extensive community college system, a highly trained work force, abundant natural resources and the nation's first state-sponsored biotechnology center.

North Carolina is home to the South's largest and most dynamic biotechnology industry and is

North Carolina ranks among the top five biotechnology regions in the United States.

North Carolina has about 150 biotechnology companies that generate about \$3 billion in annual revenues.

These companies employ about 18,500 North Carolinians and represent an annual payroll of more than \$925 million.

Forty-seven companies are publicly held and the rest are privately owned. Of the public companies, nine are headquartered in North Carolina, and they have a combined market capitalization of about \$2 billion.

CONTRARY TO ITS NAME, BIOTECHNOLOGY IS NOT A SINGLE TECHNOLOGY BUT A COLLECTION OF NEW TECHNOLOGIES, ALL OF WHICH USE LIVING CELLS AND THEIR MOLECULES TO MAKE NEW PRODUCTS, IMPROVE EXISTING PRODUCTS, AND SOLVE PROBLEMS.

a Raleigh company's bacterial bioreactor to clean its oily bilge water. And a laid-off textile worker in Kannapolis gets retrained for a high-paying job with a new biomanufacturing plant.

What is this pervasive technology that brings us these benefits? Contrary to its name, biotechnology is not a single technology but a collection of new technologies, all of which use living cells and their molecules to make new products, improve existing products, and solve problems. Major techniques of biotechnology include genetic engineering, monoclonal antibody technology, bioprocessing, cloning, and cell and tissue culture. Using these and other technologies drawn from genetics, immunology, biochemistry, microbiology, molecular biology and other life sciences, researchers are able to improve the health, traits and products of organisms for our benefit.

among the country's top five biotechnology states. More than 150 companies work in biotechnology, employing about 18,500 people and generating revenues of about \$3 billion. Another 75 companies provide contract research and testing services to the industry, employing 16,000 people and earning \$5 billion in annual revenues.

Even greater returns await us. As this R&D-intensive industry matures, it is adding a thriving product-manufacturing component. This transformation is yielding beneficial new products and generating thousands of new jobs. Within the next 20 years, biotechnology and related bioscience technologies are projected to generate \$25 billion in annual product sales and employ more than 125,000 people in North Carolina.

THE NORTH CAROLINA BIOTECHNOLOGY CENTER

A Catalyst for Economic Development

About one-third of the state's biotechnology companies are major, multinational biotechnology companies. These include Ajinomoto, Bayer CropScience, BASF, Bayer, Becton Dickinson, Biogen Idec, Diosynth, GlaxoSmithKline, Syngenta, Novozymes, Novo Nordisk Pharmaceutical Industries, bioMérieux, Eli Lilly, and Wyeth Vaccines.

WHEN BIOTECHNOLOGY BEGAN developing as a new industry in the 1970s, leaders in North Carolina realized it could bring substantial economic and societal benefits to the state. The state's General Assembly studied the opportunity for a year and concluded that North Carolina needed a dedicated organization to stimulate the development of biotechnology. The North Carolina Biotechnology Center was born in 1981 as the nation's first state-sponsored biotechnology initiative.

Initially a part of state government, the Center was reconstituted in 1984 as a private, non-profit corporation, giving it greater flexibility. As a neutral, non-partisan organization, the Center is well positioned to catalyze interactions

- Inform North Carolinians about the science, applications, benefits and issues of biotechnology.
- Enhance the teaching and workforce-training capabilities of North Carolina's educational institutions.
- Establish North Carolina as a preeminent international location for the biotechnology industry.

The Center does not conduct laboratory research. Instead, it works to strengthen the research capabilities of North Carolina's companies and universities. This strategy avoids duplication of effort and uses limited resources more efficiently.

The Center's original budget for fiscal year 2003

THE CENTER WAS RECONSTITUTED IN 1984 AS A PRIVATE, NON-PROFIT CORPORATION, GIVING IT GREATER FLEXIBILITY. AS A NEUTRAL, NON-PARTISAN ORGANIZATION, THE CENTER IS WELL POSITIONED TO CATALYZE INTERACTIONS AMONG INDUSTRY, ACADEMIA AND GOVERNMENT FOR TECHNOLOGICAL DEVELOPMENT.

among industry, academia and government for technological development. Working with these groups, the Center is active at all points in the movement of biotechnology from the laboratory to the market.

The Center's mission is to provide long-term economic and societal benefits to North Carolina by supporting biotechnology research, business and education statewide. A 50-member staff works toward six goals:

- Strengthen North Carolina's academic and industrial biotechnology research capabilities.
- Work with business, government and academia to move biotechnology from research to commercialization in North Carolina.
- Foster North Carolina's industrial development.

was \$9.1 million, based upon an adjusted State appropriation of \$5.6 million. As a result of subsequent State budget reversions, the budget was reduced by \$230,845 by the end of the fiscal year. Other sources of income included return on investments, corporate and foundation support of specific programs, and other program revenue.

The Center is located in an award-winning 40,000-square-foot headquarters building at 15 T.W. Alexander Drive in Research Triangle Park. As part of its *Project to Strengthen Biotechnology Across North Carolina*, the Center has two satellite offices, one in Winston-Salem serving the Piedmont Triad area, and one in Asheville serving western North Carolina. Other satellite offices are planned for eastern North Carolina and the greater Charlotte area.

For more information, visit the Center online at www.ncbiotech.org.

Mission

To provide long-term economic and societal benefits to North Carolina by supporting biotechnology research, business and education statewide.

ACCOMPLISHMENTS

Core Programs and Services

CONTRIBUTIONS FROM UNIVERSITIES, businesses and educational institutions are required to move biotechnology from ideas to commercial products. The 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 2003.

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 2003 the Program:

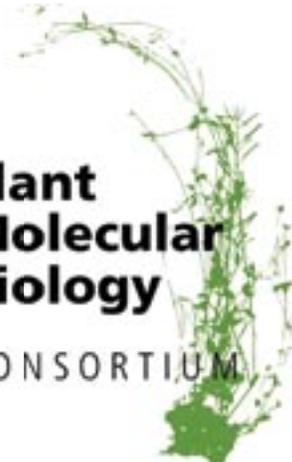
- Awarded 11 grants totaling more than \$1.2 million to help seven North Carolina universities acquire multi-user research facilities and equipment. These awards, made through the Institutional Development Grants Program, are listed on page 12.

- Awarded \$240,000 to support five research collaborations between biotechnology-related companies and universities. The funding was provided by Collaborative Funding Assistance Award Program and cosponsored by the Kenan Institute for Engineering, Technology and Science. These awards are listed on page 12.

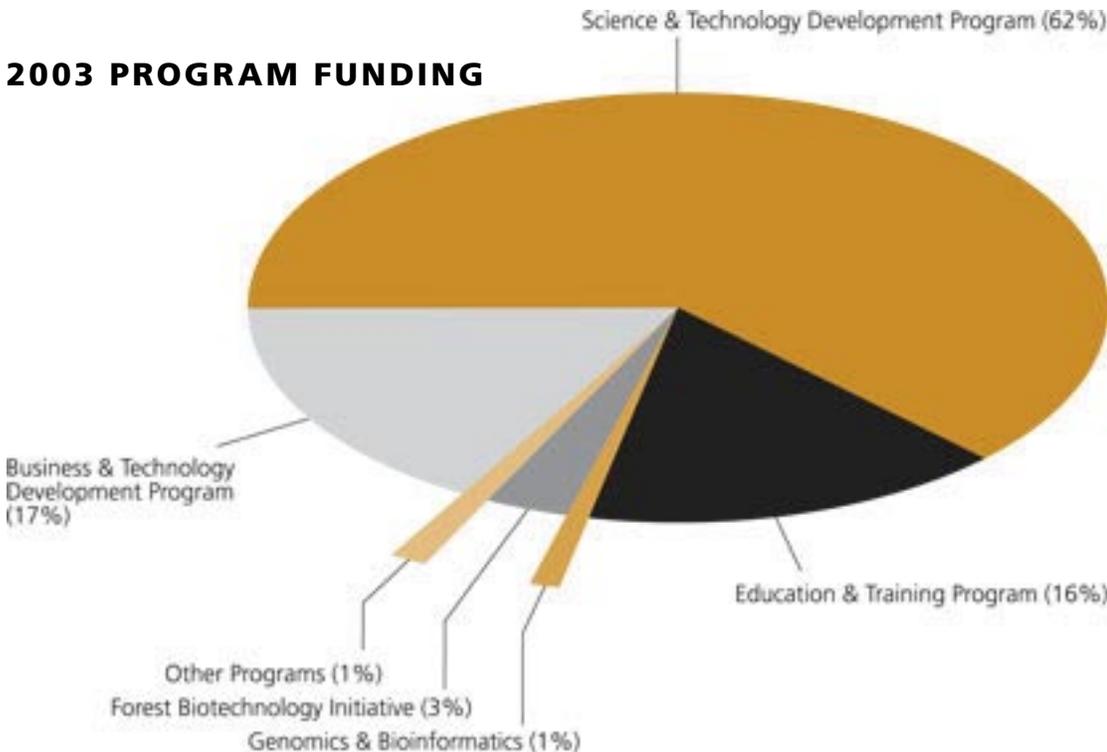
- Awarded \$655,000 to support 10 biotechnology-related agricultural research collaborations. The awards, made through Special Appropriations Grants, are listed on page 15.

- Supported several conferences, symposia and workshops on the sciences underlying biotechnology. These awards, made through the Biotechnology Event Sponsorships Program, are listed beginning on page 14.
- Supported six intellectual-exchange organizations working in key areas of biotechnology:

Plant Molecular Biology
CONSORTIUM



2003 PROGRAM FUNDING





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.

ENCOURAGING VENTURE CAPITAL FOR BIOTECHNOLOGY COMPANIES

Recognizing the importance of venture capital to the creation and growth of new biotechnology companies in the state, the Biotechnology Center in 2003 invested \$50,000 in three new North Carolina venture capital funds.

The Center committed \$10,000 to the Arboretum Fund in Chapel Hill, \$15,000 to the Inception Micro Angel Fund in Winston-Salem and \$25,000 to the Intersouth Partners VI fund in Durham. The investments bring to almost \$2 million that the Center has committed to 15 funds in the last few years.

While the investments are relatively small, they can have a big impact on the funds' ability to raise money from other investors. A state law provides a state income tax credit of up to 25 percent to individuals who invest in funds in which the Center also invests.

The incentive, known as the Qualified Business Venture Tax Credit, helps raise essential angel and mezzanine capital for early stage biotechnology companies. The tax credit was extended another three years by the General Assembly in 2003.

In addition to investing in new venture capital funds that finance biotechnology companies, the Center in 2003 provided other support for venture capital investments in North Carolina companies.

It cosponsored the Council for Entrepreneurial Development's 20th annual Venture conference in Chapel Hill, where a dozen of the state's biotechnology companies presented their business models and funding needs to more than 275 investors and an audience totaling 850 people.

It also helped sponsor the Southeast BioInvestor Forum in Atlanta, where biotechnology companies from North Carolina and six other southeastern states presented their business plans and funding needs to a national audience of more than 500 venture capitalists.

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 2003 the Program:

- Provided a \$1 million loan and other assistance to KBI BioPharma, a start-up contract drug biomanufacturing company that was recruited to North Carolina and plans to employ about 500 people in high-paying jobs.
- Provided loans totaling \$298,904 to two young biotechnology companies for product research and development. These awards, provided through the Small Business Research Award Program, are listed on page 11.
- 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 page 11.
- Provided a \$70,000 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 11.
- Cosponsored Biotech 2003, the annual meeting of the state's biotechnology community, which attracted about 800 people for a day of networking, exhibits and presentations.
- Cosponsored the Biotechnology Forum with the Council for Entrepreneurial Development. The Forum is a monthly gathering of biotechnology executives who network and hear panel discussions on business and technology topics.
- Provided dozens of biotechnology companies and entrepreneurs with professional referrals, technical and business advice, relocation assistance, technology transfer expertise and other assistance.

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 2003, the Program:

- Partnered with the state's Community College System and bioprocessing companies to produce a new edition of the BioWork course that prepares workers for entry level jobs in biomanufacturing plants.
- Awarded seven grants totaling \$187,700 to strengthen biotechnology education and training programs at five universities and one community college. These awards, made through the Education Enhancement Grants Program, are listed on page 13.
- Awarded seven grants totaling \$28,483 to help seven high schools, community colleges and universities integrate biotechnology lessons and labs into the biology curriculum. These awards, made through the Biotechnology Education Mini-Grants Program, are listed beginning on page 13.
- Sponsored four summer workshops throughout the state that prepared about 70 middle school, high school and college teachers to teach about the science, applications and issues of biotechnology.
- Assessed the employment needs of North Carolina's biomanufacturing companies and published the results in *Window on the Workplace 2003*. The assessment, funded by a grant from the Golden LEAF Foundation, was crucial to planning of the state's new biomanufacturing training initiative.

CHARLES HAMNER CONFERENCE CENTER

The 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 2003 the facility provided space, catered meals, and audiovisual support for 22,652 guests at 1,448 meetings. To better serve its clients, the conference center revised its catering menu and fee structure.

LIBRARY AND INFORMATION SERVICES

The Center's full-service library and information services unit provides Center staff and the public with information on all facets of commercial biotechnology. In 2003, staff answered 802 reference/research questions about the biotechnology industry for Center staff and external clients, and served several hundred visitors. In addition, 79 bioscience-related videotapes were loaned to North Carolina public schools and 47 other books, periodicals and articles were loaned to other libraries.

CORPORATE COMMUNICATIONS

The Center's Corporate Communications staff informs the public about biotechnology, the 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, Web sites, media relations, trade shows, visitor briefings, and advertisements in industry journals. In 2003 the staff also helped the N.C. Department of Commerce plan and execute the first North Carolina Pavilion at the BIO 2003 conference in Washington, D.C., allowing more than 50 companies, universities and non-profit groups statewide to be represented in one North Carolina exhibit.

SPECIAL INITIATIVES

In addition to its ongoing core programs and services, the Center continued several special initiatives in 2003.

Project to Strengthen Biotechnology Across North Carolina

North Carolina's biotechnology industry has traditionally clustered around the Research Triangle region of Raleigh, Durham and Chapel Hill due to

In addition to its 150 biotechnology companies, North Carolina has the world's greatest concentration of CRO and testing companies. Its 75 companies generate annual revenues of about \$5 billion.

These CRO and testing companies employ about 16,000 North Carolinians and have a collective payroll of about \$800 million.

Five of the world's largest CRO and testing companies — LabCorp, Quintiles Transnational, PPD, Inveresk Research Group and aaiPharma — are headquartered in the state and have a combined market capitalization of about \$3 billion.

Altogether, more than 34,500 North Carolinians work at biotechnology companies and CRO/testing companies, representing a payroll of more than \$1.7 billion. These workers pay more than \$100 million in income taxes to the State of North Carolina each year.

“We are choosing North Carolina over six other states because of its supporting infrastructure for the biosciences, including the Biotechnology Center, excellent research universities and community colleges, specialized construction and engineering companies, available workers, and extensive workforce training programs.”

— TONY LAUGHREY,
PRESIDENT AND CEO,
KBI BIOPHARMA INC.

The biotechnology industry in North Carolina is growing 10 to 15 percent a year. By 2025 as many as 125,000 North Carolinians are projected to work in biotechnology, and annual revenues should approach \$24 billion.

the presence of the Research Triangle Park, major universities and large life science companies. In 2003, the Center stepped up its efforts to develop biotechnology in other parts of the state through its *Project to Strengthen Biotechnology Across North Carolina*. In partnership with community leaders in Greensboro, Winston-Salem and High Point, it opened its first satellite office in Winston-Salem to serve the Piedmont Triad’s biotechnology community and hired Gwyn Riddick to direct it. It also hired Dr. Charles Moreland as Western North Carolina liaison to represent the Center’s western North Carolina office in Asheville. Other satellite offices are planned for the greater Charlotte area and eastern North Carolina by fall 2004. The four offices will link to the 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.

Institute of Forest Biotechnology

The Institute of Forest Biotechnology, a private non-profit organization initiated by, and located at, the Biotechnology Center, works for societal, ecological and economic benefits from appropriate uses of biotechnology in forestry worldwide.

Among its many activities in 2003, the Institute:

- Teamed with Scottish Enterprise, Scottish Forest Industries Cluster, and the University of Abertay Dundee to sponsor an international forum on *Forest Biotechnology in Europe: Impending Barriers, Policy, and Implications* in Edinburgh, Scotland.
- Conducted a workshop directed to the Fraser fir, an economically valuable and threatened species important to North Carolina, as part of the Heritage Trees® Program.
- Sponsored a meeting, *Modifying Reproduction in Urban Trees*, to explore the uses of biotechnology to produce social and environmental benefits by modifying the flowering and fruit production in trees planted in urban and suburban environments.

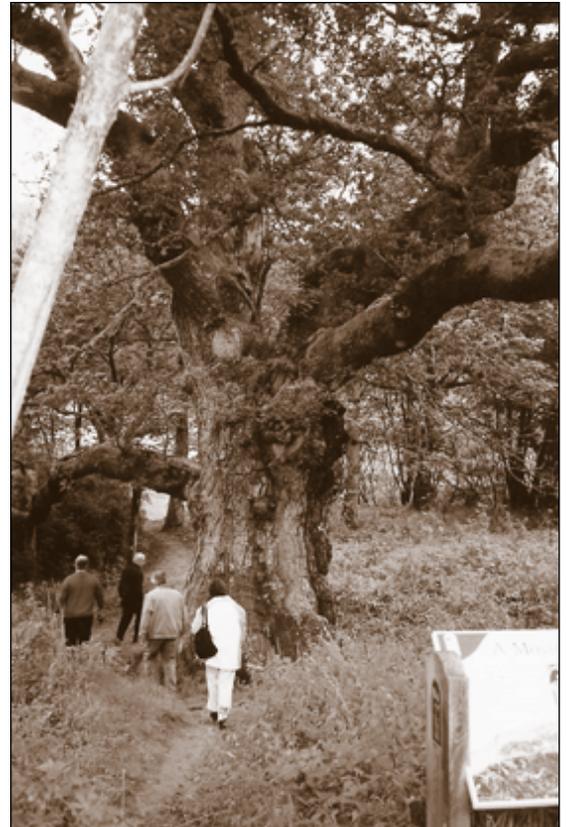


PHOTO BY SUSAN MCCORD

The Institute of Forest Biotechnology co-sponsored *Forest Biotechnology in Europe: Impending Barriers, Policy, and Implications* in Edinburgh, Scotland with Scottish Enterprise, Scottish Forest Industries Cluster, and the University of Abertay Dundee. Forum participants visited several trees of historic value while in Scotland, one of which was the Mother Larch in Dunkeld. Planted 250 years ago by the second Duke of Athol, it has provided seedlings used across Europe. It became the seed source for foresting the area. By the time his heir, the fourth Duke of Athol, died, over 27 million larch trees were planted around Dunkeld.

- Sponsored a booth on the Institute at the BIO 2003 conference and exhibit in Washington, D.C.

North Carolina Genomics and Bioinformatics Consortium

The 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 Center subsidiary include nearly 80 companies, universities and non-profit 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.

STRENGTHENING BIOTECHNOLOGY ACROSS NORTH CAROLINA

Plans to strengthen biotechnology in areas of the state beyond the technology-rich Research Triangle continued to take shape in 2003 with the Biotechnology Center's opening of the Piedmont Triad and western North Carolina satellite offices and the development of plans to create two more offices.

These activities were part of the Center's "Project to Strengthen Biotechnology Across North Carolina" and entail working with local leaders to open satellite offices in eastern North Carolina, the greater Charlotte area, western North Carolina, and the Piedmont Triad.

The Center dedicated the first of these offices in June to serve the Piedmont Triad in Winston-Salem. The office will help to support the Triad's emerging biotechnology industry and its 36 biotechnology and life science companies.

The Piedmont Triad office is the result of a partnership among the Biotechnology Center and several organizations in the area, including Wake Forest University Health Sciences, Idealliance, the Winston-Salem Chamber of Commerce and the Piedmont Triad Partnership. In addition, 21 county commissions, city councils and economic development groups in the region unanimously passed resolutions endorsing the office.

Wake Forest University Health Sciences will donate \$200,000 over two years to staff the office with a director and an assistant and will provide office space in the research park. Forsyth Technical Community College will donate two computer workstations, and WinstonNet, a local nonprofit organization, will provide high-speed Internet access. The Biotechnology Center will provide \$25,000 and possibly more in the future, depending on availability of funds from the General Assembly.

The Center opened its first satellite office in Winston-Salem to serve the Piedmont Triad's biotechnology community. Speakers at the event listen as Lt. Governor Beverly Perdue tells of the importance of biotechnology to the economy of the state. Front row from left: Adnan Mjalli, Dick Dean, Leslie Alexandre, Bill Dean, and Don Kirkman.



GROWING THE BIOMANUFACTURING INDUSTRY

The Biotechnology Center encouraged the growth of biomanufacturing in the state in 2003 by supporting a new statewide initiative to train workers for the fast-growing sector and helping recruit a new biomanufacturing company to the state that plans to employ 500 people.

The Center played a vital role in convincing the Golden LEAF Foundation to invest \$60 million in a statewide initiative to train workers for biomanufacturing jobs.

With a \$250,000 grant from Golden LEAF in 2002, the Center surveyed the state's biomanufacturing companies to determine their future need for trained workers. That study culminated in a 57-page report, *Window on the Workplace 2003* (available on the Center's Web site at www.ncbiotech.org/pdf/files/goldenleafrpt.pdf). Portions of the grant also helped the state's universities and community college system determine how they could best provide a workforce with the skills needed by the industry.

The Center also hosted and facilitated planning meetings among the companies, community college system and universities involved in the training initiative and contributed to the writing of a business plan that was a critical portion of the \$60 million proposal funded by Golden LEAF in 2003.

Golden LEAF is a non-profit organization that provides grants for economic development activities using half of the money from the state's tobacco settlement with cigarette manufacturers.

The North Carolina Biosciences Organization (NCBIO) also pledged up to \$4.5 million in in-kind contributions of equipment, professional services and other resources from its member companies to support the training program.

N.C. State University in Raleigh will receive \$36 million to build and equip a central biomanufacturing facility to train workers. Plans call for a 91,000-square-foot plant that will provide hands-on experience in a commercial-scale, Good Manufacturing Practices (GMP) environment that simulates an industrial setting. N.C. Central University in Durham will receive \$19.1 million to establish graduate and undergraduate degree programs. And the N.C. Community College System will receive \$9.4 million to recruit and train workers in local communities and serve as a feeder system to the programs at NCSU and NCCU.

North Carolina already is a leading site for biomanufacturing with 14 biomanufacturing companies employing 4,700 people in high-paying jobs. The new training initiative is expected to attract even more biomanufacturing companies to North Carolina and to help those already here to expand.

One company that will benefit from the training initiative is KBI BioPharma, recruited to North Carolina in 2003 by the Center and other partners. KBI, a spinoff of Atlanta-based Kinetic Biosystems Inc., plans to provide contract manufacturing services to biotechnology and pharmaceutical companies in a converted semiconductor plant in Durham County. The company's business plan call for 75 employees initially and up to 500 within four years. The Center provided KBI a \$1 million startup loan in 2003.

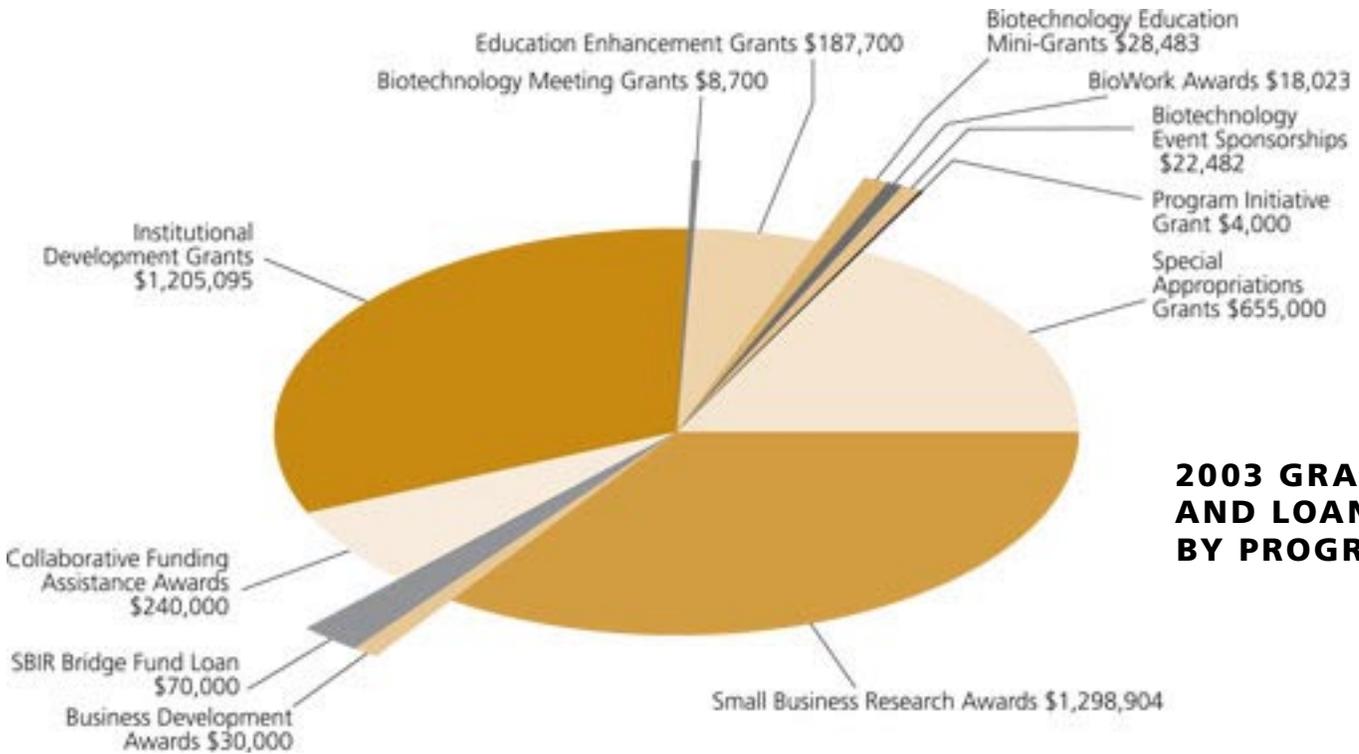


In 2003 the Consortium:

- Continued development and testing of the North Carolina BioGrid, which will provide academic and industrial researchers across the state access to high-performance computing for storing, manipulating, analyzing and sharing biological data.
- Developed and disseminated fact sheets about the legal issues and risks associated with genetic discrimination.
- Participated in the North Carolina Department of Public Instruction's Curriculum Revision Committees to revise the statewide middle school and high school biology curricula so they better reflect expanding knowledge in the life sciences.
- Participated in the North Carolina Task Force for Genomics and Public Health.
- Hosted a booth and presented a seminar at the North Carolina Science Teacher's Association Conference to inform and educate teachers about the changing needs of students regarding science education in the age of genomics.
- Hosted multiple speaker sessions for Consortium members to become more informed about math and science education initiatives across North Carolina.
- Provided information to legislators regarding legal and economic issues surrounding the creation and maintenance of human DNA databanks.

2002-2003

GRANTS AND LOANS AWARDED



2003 GRANTS AND LOANS BY PROGRAM

The North Carolina Biotechnology Center awarded 73 grants and loans totaling \$3,768,387 to universities, companies and other organizations in the 2002-2003 fiscal year.

SMALL BUSINESS RESEARCH AWARD PROGRAM

The Center awarded three Small Business Research Awards totaling \$1,298,904.

Hemocellular Therapeutics Inc., Chapel Hill

Dr. Thomas H. Fischer • \$149,654 • "Safety Evaluation of Lyophilized Platelets."

KBI BioPharma, Atlanta, GA

R. Anthony Laughrey • \$1,000,000 • "North Carolina Pilot Plant Project."

Tranzyme Inc., Research Triangle Park

Dr. Ram Ramabhadran • \$149,250 • "TranzVector Mediated Delivery of siRNA: A Powerful Tool for Drug Discovery."

BUSINESS DEVELOPMENT AWARD PROGRAM

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

Phase Bioscience, Inc. Durham

Dr. Don Rose • \$15,000 • "IP and Market Assessment of Duke University Technology for Drug Delivery."

Qualyst Inc., Research Triangle Park

Scott E. Neuville • \$15,000 • "Qualyst."

SBIR BRIDGE FUND PROGRAM

The Center awarded one SBIR Bridge loan for \$70,000.

BioMachines Inc., Morrisville

Dr. Frank Wang • \$70,000 • "Rapid and Sensitive Molecular Beacon Based DNA Microarray."

About two thirds of the state's biotechnology companies are smaller, home-grown companies. The Biotechnology Center has seed-funded about 80 of these early stage companies with low-interest loans totaling about \$10.6 million, helping them raise more than \$500 million in other funding.

More than 4,000 faculty and technicians conduct research in the life sciences at North Carolina's colleges and universities, providing the scientific expertise and infrastructure to drive the state's biotechnology industry.

COLLABORATIVE FUNDING ASSISTANCE AWARD PROGRAM

The Center awarded five Collaborative Funding Assistance Awards totaling \$240,000.

Duke University, Durham

Dr. Robert P. Behringer, Department of Physics • \$60,000 • “Unique Aerosol Dispersion Mechanism for Pulmonary Delivery of Peptides and Proteins.”

Dr. Richard B. Fair, Department of Electrical and Computer Engineering • \$30,000 • “Protein Array Synthesis Using Droplet-Based Microfluidics.”

North Carolina State University, Raleigh

Dr. Kenneth B. Adler, Department of Anatomy, Physiological Sciences and Radiology • \$60,000 • “A Novel Approach for Treatment of Airway Mucus Hypersecretion.”

Dr. Ralph A. Dean, Department of Plant Pathology • \$30,000 • “Resources for Efficient Watermelon Breeding.”

Dr. Michael Roe, Department of Entomology • \$60,000 • “Assessment of New Transgenic Technologies for Insect Control in Cotton.”

INSTITUTIONAL DEVELOPMENT GRANTS PROGRAM

The Center awarded 11 Institutional Development Grants totaling \$1,205,095.

Campbell University School of Pharmacy, Buies Creek

Dr. Brad N. Chazotte, Department of Pharmaceutical Sciences • \$107,582 • “Developing a Cellular and Pharmacodynamic Imaging Facility for Biotechnology and Pharmaceutical Research and Teaching.”

Duke University Medical Center, Durham

Dr. James O. McNamara, Department of Medicine • \$187,500 • “Neuroproteomics Center at Duke University.”

Dr. Marilyn J. Telen, Department of Medicine • \$79,210 • “Sickle Cell Mouse Core.”

East Carolina University, Greenville

Dr. John Sutherland, Department of Physics • \$57,531 • “First Circular Dichroism Spectrometer for East Carolina University.”

North Carolina State University, Raleigh

Dr. Vincent L. Chiang, Department of Forestry • \$86,250 • “Multi-User Instrumentation Linking Gene Expression and Metabolic Profiling for Plant Biotechnology Research.”

Dr. Gregory J. Cole, Department of Anatomy, Physiological Sciences and Radiology • \$151,626 • “Confocal Microscope Imaging System.”

Dr. William F. Thompson, Department of Botany and Genetics • \$71,341 • “Applied Genomics and Plant Improvement Facility.”

University of North Carolina at Chapel Hill

Dr. Jian Jie Wang, Department of Surgery • \$120,000 • “Micro/Nanofabrication System for Biomedical Applications.”

University of North Carolina at Greensboro

Dr. Dennis LaJeunesse, Department of Biology • \$135,000 • “UNC-Greensboro Confocal Microscope Facility.”

Wake Forest University, Winston-Salem

Dr. Rebecca W. Alexander, Department of Chemistry • \$71,805 • “Chemistry-Biology Biomolecular Imaging Center.”

Dr. Daniel B. Kim-Shapiro, Department of Physics • \$137,250 • “Electron Paramagnetic Resonance Spectrometer Purchase.”

BIOTECHNOLOGY MEETING GRANTS PROGRAM

The Center awarded four Biotechnology Meeting Grants totaling \$8,700.

Duke University Medical Center, Durham

Dr. Mariano A. Garcia-Blanco, Department of Molecular Genetics and Microbiology • \$3,000 • “Symposium on RNA Biology V: RNA, Tool and Target.”

North Carolina Association for Biomedical Research, Raleigh

Karen S. Hoffman • \$1,200 • “The Science of Vaccines: Leading the Way in Disease Prevention and Biodefense.”

Research Triangle Institute, Research Triangle Park

Dr. Nicholas Oberlies • \$3,000 • “The Changing Face of Natural Products Chemistry.”

Dr. Nicholas Oberlies • \$1,500 • “National Historic Chemical Landmark Ceremony.”

EDUCATION ENHANCEMENT GRANTS PROGRAM

The Center awarded seven Education Enhancement Grants totaling \$187,700.

East Carolina University, Greenville

Dr. Robert M. Lust, Department of Physiological Proteogenomics • \$27,000 • “Development of a Graduate Course in Physiological Proteogenomics.”

North Carolina Central University, Durham

Dr. Amal Abu-Shakra, Department of Biology • \$11,600 • “To Plan, Develop and Teach a Masters-Level Bioinformatics Course at N.C. Central University.”

Pitt Community College, Greenville

Christina Weeks • \$51,400 • “Associate Degree Program in Biotechnology.”

University of North Carolina at Charlotte

Dr. Todd R. Steck, Department of Biology • \$38,200 • “Development of an Interdisciplinary Course Entitled ‘Environmental Biotechnology: Techniques and Applications.’”

Wake Forest University, Winston-Salem

Angel G. King, Department of Chemistry • \$14,700 • “The Science Behind Biotechnology: Equipping High School Teachers for Classroom Instruction.”

Dr. Brian W. Tague, Department of Biology • \$20,000 • “Foundations of Biotechnology at Wake Forest University: New Core Courses in Molecular Genetics and Cellular Biology.”

Western Carolina University, Cullowhee

Dr. Wesley Bonds, Department of Chemistry and Physics • \$24,800 • “Enhancing Biotechnology Education at Western Carolina University.”

BIOTECHNOLOGY EDUCATION MINI-GRANTS PROGRAM

The Center awarded seven Biotechnology Education Mini-Grants totaling \$28,483.

Brevard High School, Brevard

Jay Case • \$4,850 • “Establishing an AP Biology Course at Brevard High School and Integrating Biotechnology into the General Biology Curriculum.”

Campbell University School of Pharmacy, Buies Creek

Emily Bloom, Department of Biology • \$4,999 • “Microbiology — How can I see that in my class?”

Carteret Community College, Morehead City

Margaret F. Rawls • \$1,004 • “Biotech Basics — A summer camp for academically gifted middle schoolers.”

Durham School of the Arts, Durham

Tracy Voreis • \$4,985 • “You Be the Detective!”

Laboratories for Learning, Chapel Hill

Dr. Andrew Rothschild • \$4,998 • “BioSummer 2003.”

North Iredell High School, Olin

Crystal McDowell • \$5,000 • “Integration of Biotechnological Applications into the Science Curriculum.”

Each year, North Carolina's universities, federal labs and non-profit institutes conduct more than \$1.5 billion of sponsored research in the life sciences, placing North Carolina among the top five states.

Five of the state's major universities — Duke, East Carolina, North Carolina, North Carolina State, and Wake Forest — are collectively investing more than \$800 million in new genomics and bioinformatics research programs.

Pender Learning Center, Burgaw

Jack Curtis Jr. • \$2,647 • “A Start in Biotechnology for Pender Learning Center.”

BIOWORK AWARD PROGRAM

The Center awarded four BioWork grants totaling \$18,023.

Durham Technical Community College, Durham

Penny Gluck • \$4,318 • “Fall 2002 BioWork Course.”

Penny Gluck • \$3,705 • “Spring 2003 BioWork Course.”

Vance-Granville Community College, Henderson

Dr. Garland Elliott • \$5,000 • “Fall 2002 BioWork Course.”

Dr. Garland Elliott • \$5,000 • “Spring 2003 BioWork Course”

BIOTECHNOLOGY EVENT SPONSORSHIPS PROGRAM

The Center awarded 18 Biotechnology Event Sponsorships totaling \$22,482.

BioAbility, Research Triangle Park

Dr. Mark D. Dibner • \$1,132 • “The Laws of Science.”

Duke University Medical Center, Durham

Dr. Farshid Guilak, Department of Surgery • \$1,000 • “2003 North Carolina Tissue Engineering Interest Group Meeting.”

Kimberly F. Johnson, Cancer Center • \$1,000 • “Critical Assessment of Microarray Data Analysis (CAMDA 02).”

Dr. Kenneth N. Kreuzer, Department of Molecular Genetics and Microbiology • \$1,000 • “Make It Or Break It: Synthesis and Degradation in the Cell.”

Dr. William C. Wetsel, Department of Psychiatry and Behavioral Sciences • \$1,000 • “Does Sex Matter?”

Genotoxicity and Environmental Mutagen Society, Research Triangle Park

Dr. Mark S. Miller • \$1,000 • “Molecular Epidemiology of Cancer.”

Diane L. Spencer • \$1,000 • “The Science of Bioterrorism.”

North Carolina A&T State University, Greensboro

Antoine Alston • \$1,500 • “Bridging the Biotech Divide: N.C. A&T University Symposium on Emerging Issues in Biotechnology for Underserved Communities.”

North Carolina Academy of Science, Raleigh

Dr. Susan Stephenson, Meredith College Department of Biology and Health Science • \$1,000 • “100th Annual Meeting North Carolina Academy of Science.”

North Carolina Small Business & Technology Development Center, Raleigh

Lenzie Harcum • \$1,550 • “SBIR/STTR Conference.”

John P. Ujvari • \$1,500 • “SBIR Phase 2 Proposal Development — A Comprehensive Workshop.”

John P. Ujvari • \$1,500 • “SBIR Funding Opportunities for Southeastern Biotechnology Businesses.”

North Carolina State Fair, Raleigh

Heather Overton, N.C. Department of Agriculture • \$1,500 • “Bio Frontiers.”

Southeastern Life Sciences Association, Raleigh

Charles Calkins • \$1,000 • “Southeast BioInvestor Forum.”

University of North Carolina at Chapel Hill

Dr. Shelton H. Earp III, Department of Medicine • \$1,500 • “27th Annual Lineberger Comprehensive Cancer Center Symposium ‘Ubiquitin and Cancer.’”

Dr. Sharon Milgram, Department of Medicine • \$1,300 • “Directed Therapeutics: Today’s Research, Tomorrow’s Medicine.”

University of North Carolina at Charlotte

Mark S. Wdowik • \$1,500 • “Charlotte’s Emerging Role in Biotechnology.”

Mark S. Wdowik • \$1,500 • “UNC-Charlotte Five Ventures 2003.”

PROGRAM INITIATIVE GRANTS

The Center awarded one Program Initiative Grant totaling \$4,000.

Research Triangle Regional Partnership, Research Triangle Park

Charles Hayes • \$4,000 • “Research Triangle Region’s Future Cluster Competitiveness Initiative.”

SPECIAL APPROPRIATIONS GRANTS

The Center awarded 10 Special Appropriations Grants totaling \$655,000.

Duke University, Durham

Dr. James F. Reynolds, Department of Biology • \$38,764 • “Investigation of Enhanced Drought Tolerance in Corn.”

North Carolina State University, Raleigh

Dr. David A. Danehower, Department of Crop Science • \$30,000 • “Development of Bloodroot (*Sanquinaria canadensis*).”

Dr. David L. Jordan, Department of Crop Science • \$85,000 • “Application of Hyper-Spectral and Multi-Spectral Remote Sensing Imagery to Enhance Peanut Disease Forecasting System in North Carolina.”

Dr. Theo van Kempen and Dr. Joe Cassady, Department of Animal Science • \$46,548 • “Impact of Novel Sources of Phytase on Nutrient Digestibility.”

Dr. Michele Marra, Agricultural and Resource Economics Department • \$84,907 • “Understanding the Economic Impact of Herbicide Tolerant Crop Technology on North Carolina Farmers.”

Dr. Charles H. Opperman, Department of Plant Pathology • \$50,000 • “Functional Genomics of *Pasteuria Penetrans*: Gene Discovery.”

Coby Schal, Department of Entomology • \$38,781 • “Monitoring-Guided Action Thresholds for Cockroach Control in Elementary Schools.”

Dr. Bryon R. Sosinski, Department of Horticultural Science • \$150,000 • “Sweet Potatoes for Ethanol Diversification.”

Dr. Edward L. Vargo, Department of Entomology • \$46,000 • “Assessment of Relative Subterranean Termite Pressure in Residential Areas of Different Ages in the Piedmont of North Carolina.”

University of North Carolina at Chapel Hill

Dr. Robert K. Peet, Department of Biology • \$85,000 • “A Characterization of Plant Communities Surrounding North Carolina Agricultural Ecosystems.”

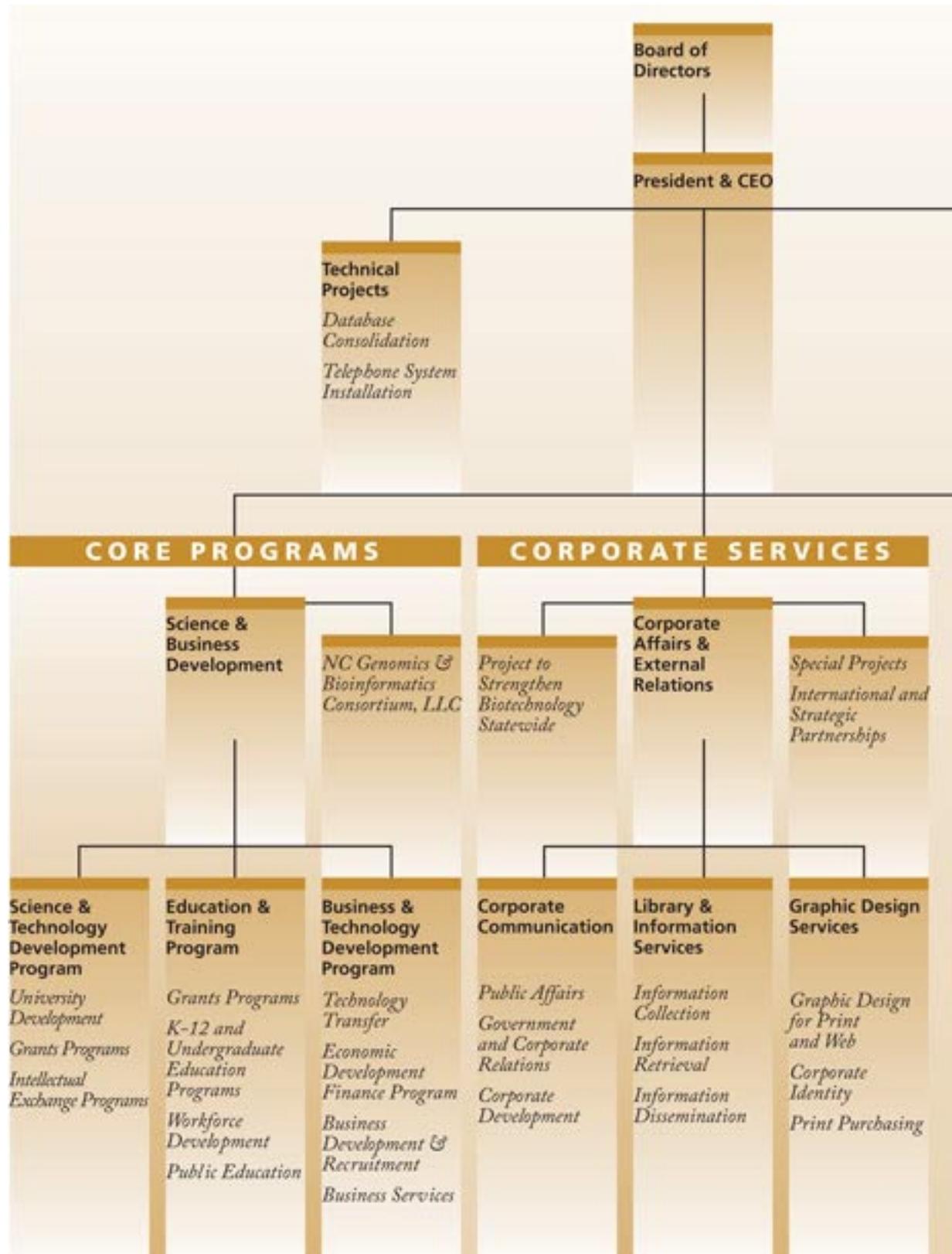
Many of the new jobs created in biotechnology will be in biomanufacturing, the making of biological products such as drugs, diagnostics, vaccines, vitamins, amino acids and enzymes. Already, about 4,700 North Carolinians work at 14 biomanufacturing plants.

NORTH CAROLINA BIOTECHNOLOGY CENTER

Program Structure and Task Areas

With funds from its federal tobacco settlement, North Carolina has embarked on a \$64.5 million initiative to train biomanufacturing workers across the state. An estimated 2,000 to 3,000 new jobs per year will be created in biomanufacturing and related pharmaceutical manufacturing in the next few years.

The North Carolina Genomics and Bioinformatics Consortium, created by the Biotechnology Center, unites about 80 companies, universities and service organizations to enhance the state's effectiveness in genomics, proteomics, and genomics research and business.





The Biotechnology Center is committed to developing biotechnology in all parts of the state and is opening satellite offices to serve the Piedmont Triad, western North Carolina, Greater Charlotte and eastern North Carolina.

At the request of Governor Mike Easley, the Biotechnology Center is leading the development of a statewide strategic plan for growing the biotechnology industry across North Carolina over the next decade. The final plan will be available on the Center's Web site in 2004.

NORTH CAROLINA BIOTECHNOLOGY CENTER

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As of June 30, 2003

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CONSOLIDATED FINANCIAL STATEMENTS AND SCHEDULES

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, 2003 and 2002, 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 consolidated financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management as well as evaluating the overall consolidated 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, 2003 and 2002, 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.

The signature is written in a bold, black, handwritten style. The letters 'K', 'P', 'M', and 'G' are significantly larger and more stylized than the 'L', 'L', and 'P' at the end. The 'L's are connected to the 'P's, and the 'P's are connected to the final 'P'. The overall appearance is that of a signature in ink.

August 6, 2003

CONSOLIDATED STATEMENTS OF FINANCIAL POSITION*June 30, 2003 and 2002*

| | 2003 | 2002 |
|--|----------------------|--------------------|
| Assets | | |
| Cash | \$ 1,577,386 | 796,775 |
| Investments (<i>note 3</i>) | 18,761,997 | 27,321,054 |
| Receivables: | | |
| Accrued interest receivable | 50,705 | 62,508 |
| Miscellaneous receivables | 101,921 | 101,849 |
| Receivable from North Carolina Bioscience Investment Fund | 315 | 27,850 |
| Contributions receivable (<i>note 5</i>) | 323,980 | — |
| Loans receivable (<i>note 4</i>) | 475,000 | 75,000 |
| Notes receivable (<i>notes 2 and 4</i>) | 2,157,621 | 2,179,468 |
| Allowance for uncollectible notes and loans receivable (<i>notes 2 and 4</i>) | <u>(2,357,621)</u> | <u>(2,179,468)</u> |
| <i>Total receivables</i> | 751,921 | 267,207 |
| Other assets | 1,000 | 8,213 |
| Property, plant, and equipment, net (<i>note 6</i>) | <u>4,604,186</u> | <u>4,873,882</u> |
| Total assets | \$ 25,696,490 | 33,267,131 |
| Liabilities and Net Assets | | |
| Accounts payable and accrued expenses | \$ 114,500 | 124,950 |
| Grants and contracts payable (<i>note 7</i>) | 3,516,913 | 4,056,435 |
| Deferred revenues | <u>77,900</u> | <u>1,145,481</u> |
| <i>Total liabilities</i> | <u>3,709,313</u> | <u>5,326,866</u> |
| Net assets: | | |
| Unrestricted net assets: | | |
| Designated for specific purposes (<i>note 1(d)</i>) | 20,978,412 | 27,644,578 |
| Undesignated | 644,422 | 195,475 |
| Temporarily restricted (<i>note 1(d)</i>) | <u>364,343</u> | <u>100,212</u> |
| <i>Total net assets</i> | <u>21,987,177</u> | <u>27,940,265</u> |
| Total liabilities and net assets | \$ 25,696,490 | 33,267,131 |

See accompanying notes
to consolidated financial
statements.

CONSOLIDATED STATEMENTS OF ACTIVITIES AND CHANGES IN NET ASSETS

Years ended June 30, 2003 and 2002

| | 2003 | 2002 |
|--|-----------------------------|--------------------------|
| Unrestricted revenues, gains, and other support: | | |
| Grants and contracts: | | |
| State of North Carolina | \$ 6,284,673 | 4,840,574 |
| Note repayments (note 2) | 387,062 | 284,959 |
| Interest and dividends (note 8) | 349,939 | 778,847 |
| Hamner Conference Center | 343,332 | 378,229 |
| Net unrealized (loss) gain on investments | (5,630,368) | 126,736 |
| Gain on sale of property and equipment | 995 | — |
| Other, net | 362,097 | 70,161 |
| Net assets released from restrictions, including \$249,357 received from Golden LEAF in 2003 (note 1(d)) | 309,821 | 156,783 |
| <i>Total unrestricted revenues, gains, and other support</i> | <u>2,407,551</u> | <u>6,636,289</u> |
| Expenses and losses: | | |
| Science and technology development: | | |
| Institutional development grants | 1,191,590 | 573,331 |
| Multidisciplinary research grants | — | 223,908 |
| Collaborative funding program | 764,997 | 126,145 |
| Academic research initiation grants | (9,552) | (75,942) |
| Economic development loan programs | 531,092 | 540,093 |
| Hamner Conference Center | 498,489 | 536,304 |
| Library and information services | 281,180 | 262,855 |
| Biomanufacturing workforce assessment | 250,120 | — |
| Education and training program grants | 227,201 | 44,109 |
| Workforce training project | 110,800 | 204,795 |
| Forest biotechnology initiative | 100,000 | 242,636 |
| Intellectual exchange activities | 49,388 | 57,459 |
| Biotechnology event grants/sponsorships | 29,933 | 26,211 |
| Genomics and bioinformatics program | 27,022 | 108,486 |
| Public HMU program initiative | (77,901) | 32,203 |
| Other programs | 4,000 | 20,000 |
| Program management | 2,856,143 | 2,751,863 |
| General and administrative | 1,790,268 | 1,873,507 |
| Loss on sale of property and equipment | — | 120 |
| <i>Total expenses and losses</i> | <u>8,624,770</u> | <u>7,548,083</u> |
| Change in unrestricted net assets | (6,217,219) | (911,794) |
| Temporarily restricted revenues: | | |
| Contributions | 573,952 | 143,249 |
| Net assets released from restrictions (note 1(d)) | (309,821) | (156,783) |
| Change in temporarily restricted net assets | <u>264,131</u> | <u>(13,534)</u> |
| Change in total net assets | (5,953,088) | (925,328) |
| Net assets, beginning of year | <u>27,940,265</u> | <u>28,865,593</u> |
| Net assets, end of year | <u>\$ 21,987,177</u> | <u>27,940,265</u> |

See accompanying notes to consolidated financial statements.

CONSOLIDATED STATEMENTS OF CASH FLOWS*Years ended June 30, 2003 and 2002*

| | 2003 | 2002 |
|---|----------------------------|-----------------------|
| <i>Cash flows from operating activities:</i> | | |
| Change in total net assets | \$ (5,953,088) | (925,328) |
| Adjustments to reconcile change in total net assets to net cash used by operating activities: | | |
| Depreciation | 294,849 | 304,366 |
| (Gain) loss on sale of property and equipment | (995) | 120 |
| Net unrealized loss (gain) on investments | 5,630,368 | (126,736) |
| Program management expenses associated with the North Carolina Bioscience Investment Fund | 215,596 | 244,602 |
| Increase (decrease) in cash due to changes in: | | |
| Notes and loans receivable | (378,153) | (249,405) |
| Allowance for uncollectible notes and loans receivable | 178,153 | 249,405 |
| Accrued interest receivable | 11,803 | 114,430 |
| Contributions receivable | (323,980) | — |
| Miscellaneous receivables | 27,463 | 8,457 |
| Other assets | 7,213 | 37,582 |
| Accounts payable and accrued expenses | (10,450) | (18,030) |
| Grants and contracts payable | (539,522) | (3,960,696) |
| Deferred revenues | (1,067,581) | (302,148) |
| <i>Net cash used by operating activities</i> | <u>(1,908,324)</u> | <u>(4,623,381)</u> |
| Cash flows from investing activities: | | |
| Proceeds from sale of property and equipment | 1,145 | 600 |
| Purchase of property and equipment | (25,303) | (11,985) |
| Proceeds from sale of investments | 86,231,041 | 68,414,678 |
| Purchase of investments | (83,517,948) | (63,704,023) |
| <i>Net cash provided by investing activities</i> | <u>2,688,935</u> | <u>4,699,270</u> |
| <i>Net increase in cash</i> | 780,611 | 75,889 |
| Cash, beginning of year | <u>796,775</u> | <u>720,886</u> |
| <i>Cash, end of year</i> | <u>\$ 1,577,386</u> | <u>796,775</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 (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 inter-company 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. 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 by the Center after July 1, 1997 with State funds. There were no net profits on any of the Center's investments in 2003 and 2002 which exceeded the \$150,000 threshold.

Receivables

An allowance for uncollectible receivables has been provided for notes and certain loans receivable. 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, 2003 and 2002, unrestricted net assets designated for specific purposes consisted of the following:

| | 2003 | 2002 |
|--|----------------------|-------------------|
| Fixed assets | \$ 4,604,186 | 4,873,882 |
| Building renovations and repairs | 3,696,304 | 3,683,599 |
| Future economic development investment | 4,752,661 | 5,803,788 |
| Stocks and equity investments | 6,823,977 | 11,690,267 |
| Other | 1,101,284 | 1,593,042 |
| | <u>\$ 20,978,412</u> | <u>27,644,578</u> |

Temporarily restricted net assets are available for the following purposes at June 30, 2003 and 2002:

| | 2003 | 2002 |
|----------------------------------|-------------------|----------------|
| Satellite offices | \$ 273,835 | — |
| Work force assessment | 643 | — |
| Intellectual exchange activities | 89,865 | 100,212 |
| | <u>\$ 364,343</u> | <u>100,212</u> |

Net assets were released from donor restrictions by incurring expenses satisfying the restricted purposes or by the passage of time. 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 workforce assessment report with funds received from Golden LEAF (Long-term Economic Advancement Foundation). In 2002, purpose restrictions were accomplished by incurring \$156,783 in expenses by holding events and meetings, purchasing training supplies, and performing data gathering/dissemination.

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, including grants for Public Historically Minority Universities and Agricultural Research Funds, 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 73% of its unrestricted revenues from the State of North Carolina in 2003 and 2002, 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 \$931,489 and \$971,341 for the years ended June 30, 2003 and 2002, respectively, have been allocated among the programs and activities benefited.

Income Taxes

The Center is exempt from payment of federal income taxes under the provisions of Section 501(c)(3) of the Internal Revenue Code, except for any unrelated business income. Since there was no unrelated business net income during 2003 and 2002, 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.

(2) Economic Development Investment Fund

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.

The Center accounts for these awards as expenses upon approval by the Executive Committee, thus recording a 100% reserve on the related notes receivable as these awards are paid out. Management of the Center does not believe it has adequate information to estimate a more precise allowance for uncollectible notes receivable since the companies' ability to repay the amounts is contingent on their ability to survive as profitable entities. The Center records revenue (note repayments) in the year the award is repaid. Note repayments of \$387,062 and \$284,959 were received in 2003 and 2002, respectively. Interest income is not recognized for financial reporting purposes until it is collected.

(3) Investments

The aggregate values of investments at June 30, 2003 and 2002 were as follows:

| 2003 | Cost | Gross unrealized gains | Gross unrealized losses | Fair value |
|-------------------------|----------------------|---------------------------------------|--|-------------------|
| Stocks | \$ 299,628 | — | (238,715) | 60,913 |
| Certificates of deposit | 1,750,000 | — | — | 1,750,000 |
| Commercial paper | 12,269,781 | — | — | 12,269,781 |
| 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> |

| 2002 | Cost | Gross unrealized gains | Gross unrealized losses | Fair value |
|-------------------------|----------------------|---------------------------------------|--|-------------------|
| Stocks | \$ 299,628 | — | (233,207) | 66,421 |
| Certificates of deposit | 2,350,000 | — | — | 2,350,000 |
| Commercial paper | 15,408,411 | — | — | 15,408,411 |
| BIF | 7,703,163 | 339,059 | — | 8,042,222 |
| Equity investments | 1,763,113 | — | (309,113) | 1,454,000 |
| | <u>\$ 27,524,315</u> | <u>339,059</u> | <u>(542,320)</u> | <u>27,321,054</u> |

The BIF represents Ventures' equity-method investment in the North Carolina Bioscience Investment Fund, LLC. In 2003, the Ventures' share of the BIF's net loss totaled (\$5,480,487) 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 2002, the Ventures' share of the BIF's net income totaled \$337,906 which is recorded in the consolidated statements of activities and changes in net assets as an unrealized gain of \$582,508 and program management expense of \$244,602.

In connection with Economic Development Finance awards, the Center receives the right to purchase stock in various biotechnology/bioscience companies. As of June 30, 2003, the Center received warrants to purchase 287,212 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 2013. Value has not been attributed to these warrants; accordingly, they are not reflected in the consolidated financial statements.

As of June 30, 2003, the Center has capital contribution commitments to the BIF and various venture capital funds totaling \$925,499. These funds will be invested in future years as capital calls are made by the various venture capital fund managers.

(4) Loans and Notes Receivable

Loans and notes receivable at June 30, 2003 and 2002 consisted of the following:

| | 2003 | 2002 |
|---|-------------|-------------|
| 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. The total loan amount approved is \$1,000,000. | 400,000 | — |
| | 475,000 | 75,000 |
| Less allowance for uncollectible loans receivable | (200,000) | — |
| Loans receivable, net | \$ 275,000 | 75,000 |
| | 2003 | 2002 |

| | | |
|---|------------|---------|
| 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 range from 2003 to 2006. | \$ 481,261 | 594,894 |

| | 2003 | 2002 |
|---|-----------|-----------|
| Notes receivable from various state biotechnology companies under Small Business Innovation Research awards. Interest rates on these notes vary from 4.00% to 8.50%. Generally, principal and interest are payable one to five years from the execution of the note. Due dates range from 2003 to 2008. | 106,213 | 79,973 |
| Note receivable from a state biotechnology company under the Collaborative Funding Assistance program. Repaid in 2003. | — | 16,000 |
| Notes receivable from various state biotechnology companies under Business Development Awards. Interest rates on these notes vary from 5.75% 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 2006. | 109,974 | 83,774 |
| 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. | 1,374,395 | 1,294,195 |
| 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 |

| | 2003 | 2002 |
|--|--------------------|--------------------|
| Notes receivable from various state universities under Proof of Principle Awards. Generally, principal and interest are payable within five years, if the technology or intellectual property is sold, transferred, assigned or licensed. However, there is no interest if paid in the first year. | 62,195 | 87,050 |
| | <u>2,157,621</u> | <u>2,179,468</u> |
| Less allowance for uncollectible notes receivable | <u>(2,157,621)</u> | <u>(2,179,468)</u> |
| Notes receivable, net | \$ — | — |

(5) Contributions Receivable

Contributions receivable consisted of the following at June 30, 2003 and 2002:

| | 2003 | 2002 |
|---|-------------------|----------|
| Unconditional promises expected to be collected in: | | |
| Less than one year | \$ 195,364 | — |
| One year to five years | <u>128,616</u> | <u>—</u> |
| | <u>\$ 323,980</u> | <u>—</u> |

(6) Property, Plant, and Equipment

A summary of property, plant, and equipment at June 30, 2003 and 2002 follows:

| | 2003 | 2002 |
|-------------------------------------|---------------------|--------------------|
| Building | \$ 7,305,069 | 7,305,069 |
| Furniture, fixtures, and equipment | <u>1,388,981</u> | <u>1,598,161</u> |
| | 8,694,050 | 8,903,230 |
| Less accumulated depreciation | <u>(4,089,864)</u> | <u>(4,029,348)</u> |
| Property, plant, and equipment, net | <u>\$ 4,604,186</u> | <u>4,873,882</u> |

(7) 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, 2003 are expected to be paid as follows:

| | Total |
|------|---------------------|
| 2004 | \$ 2,779,167 |
| 2005 | <u>737,746</u> |
| | <u>\$ 3,516,913</u> |

(8) Interest and Dividend Income

Interest and dividend income of \$265,594 and \$654,754 was earned during the years ended June 30, 2003 and 2002, respectively, primarily by investing in certificates of deposit and commercial paper. Interest income collected on notes and loans receivable in 2003 and 2002 totaled \$84,345 and \$124,093.

(9) 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 \$228,000 and \$245,000 was contributed to the plan during the years ended June 30, 2003 and 2002, 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.

(10) 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.

(11) Conditional Promises to Give

A donor has committed funding to the Center through a \$25,000 grant to support the establishment of a satellite office in Western North Carolina. Because the grant contains a termination clause, the contribution was not recorded as of June 30, 2003.

(12) Related Parties

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

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