

# TRIANGLE UNIVERSITIES CENTER FOR ADVANCED STUDIES, INC.

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## *A Brief History*

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### *Origins of TUCASI*

The Triangle Universities Center for Advanced Studies, Inc. (TUCASI) was the brain-child of Archie K. Davis, chairman of the Research Triangle Foundation. Early in 1975 Davis posed a challenge to the universities:

*What might the universities do with a campus within RTP that could be a site for scholarly collaboration of the three Universities supported financially by the Research Triangle Foundation?*

Mr. Davis had in mind a place where the faculties (and students) of the three institutions might conduct joint studies or research—**such as an international center**. His idea of dedicating a tract of land in RTP as a campus for such joint activities of the parent universities arose as a consequence of three developments:

- The Research Triangle Foundation was emerging from its development debt and could turn some of its attention to selectively enhancing programs at the universities.
- The rapid growth of the Research Triangle Park was outpacing the relative presence of the universities in RTP; it was considered desirable to increase the presence of the universities in RTP.
- The three universities had demonstrated that they could accomplish great things by collaboration in ventures such as the creation of the Research Triangle Institute (RTI); the Triangle Universities Computation Center (TUCC), both located in RTP; and the Triangle Universities Nuclear Laboratory (TUNL), located on the Duke University campus. In addition there were long-standing cooperative programs such as inter-library loan and coordinated purchases; inter-institutional registration of students; joint instructional and research programs, such as the Institute of Statistics (UNC-CH and NCSU) and programs in Judaic Studies and Latin American Studies at Duke and UNC-CH.

An *ad hoc* committee was appointed by the presidents of UNC and Duke University to consider this challenge. The committee solicited ideas from the faculties and considered about a dozen concepts in as many different fields, but no project rose to the top of the agenda at that time. The universities were not at a point of proposing a joint program in international studies. However, in the offing was the possibility of a national center for advanced studies in the humanities that was being developed by a national group of scholars, working under the aegis of the American Academy of Arts and Sciences.

The Committee proposed creation of a nonprofit corporation to hold title to the property in RTP and requested a small grant for development of a conceptual campus plan, a mission statement and for minor operating expenses. The Foundation then provided \$50,000 for the planning. TUCASI was incorporated in late 1975 to identify and pursue activities that might be placed on this campus within RTP. In 1976 the Foundation deeded 120 acres in RTP to TUCASI.

TUCASI has a board of directors, in part appointed *by* the universities, in part appointed *from* the universities, and in part *elected* from the community at large. At its organizational meeting in the spring of 1976, John Tyler Caldwell, former chancellor of NCSU, was elected first president of TUCASI. A campus physical plan was completed in 1977, identifying clusters of building sites and areas to remain in its natural state. A development policy was adopted.

In January, 1979, John Caldwell wrote to Archie Davis, then president of the Research Triangle Foundation, advancing two propositions approved at TUCASI's December, 1978 Annual Meeting. Both had been recommended by Terry Sanford and Bill Friday, presidents of Duke University and UNC, and by Chancellors Ferebee Taylor and Joab Thomas of UNC-CH and NCSU:

1. *That TUCASI be designated as the vehicle through which the Foundation would transfer its assets to the three universities, and*
2. *That TUCASI should submit to the Foundation annually a budget for operating expenses and capital projects.*

By letter, dated June 7, 1979, Davis responded that the Foundation had approved in principle the two propositions. Later, in January 1981, the Foundation provided TUCASI with a small endowment of \$250,000 for "incidental expenses," so that TUCASI would not have to come to the Foundation with small requests to take advantage of opportunities less costly than creation of a major activity on the campus.

### *Accomplishments of TUCASI*

Even before the campus plan was completed, the decision was made to enter the national competition for the National Humanities Center. In late 1976 TUCASI submitted a proposal to locate the Humanities Center on its campus in RTP. The proposal offered a 15-acre site on its campus and three years of financial support at a level \$25,000 each from the three universities for operating costs (later renewed for two additional years). Davis proposed to raise \$3 million in private contributions for a building to house the Center (later accomplished in 30 days!). Also, the universities together pledged \$75,000 per year for five years for operating expenses until the Center could raise its own operating expenses and endowment. In national competition the TUCASI proposal won the National Humanities Center as the first tenant on its campus.

Thence, with NHC as the "anchor tenant" and with financial assistance from the Foundation assured, TUCASI went on to develop additional facilities on the campus, including:

- MCNC (originally the Microelectronics Center of North Carolina), which has provided a design and fabrication facility for semiconductor chips and nanotechnology, and in addition operates two subsidiary functions:
  - The N. C. Research and Education Network (NCREN), a high-speed, two-way network created and managed by MCNC that has provided facilities for interactive course

and seminar offerings, as well as video and data transfer among the institution of higher learning throughout North Carolina.

- **The North Carolina Supercomputing Center (NCSC)** managed by MCNC, provided state-of-the-art supercomputing capabilities to the state's public and private universities for more than ten years. The supercomputer was recently dismantled and in its place is a planned distributive computing system actively underway in design

Other tenants that have been brought to the TUCASI Campus include:

- **The North Carolina Biotechnology Center (NCBC)**, which has provided support to the universities in North Carolina for developing capabilities in biotechnology through research grants, support of facilities, support for attracting national experts in biotechnology to the university faculties, and sponsorship of seminars and conferences on biotechnological subjects. In addition the Center has provided educational programs for high schools, technical assistance to the State of North Carolina in formulating legislation affecting biotechnology, and assistance in attracting biotechnology companies to North Carolina and help for start-up companies in securing start-up funding.
- **The National Institute for Statistical Sciences (NISS)** is another "think tank" that undertakes research in areas where statistics is central to the studies. Programs are conducted both on-site on the TUCASI campus and also at remote locations. Graduate students and faculty in a variety of departments of the Triangle universities are very much involved.
- **The Statistical and Applied Mathematical Sciences Institute (SAMSI)**. A major multimillion dollar program was won a few years ago to conduct collaborative research in areas of activity such as environment, stochastic computation, inverse problems modeling of internet traffic, data mining, machine learning, and multi-scale modeling and control design. It is housed in NISS.
- **The Burroughs-Wellcome Fund**, created from the assets of Bourroughs-Wellcome following its merger with Glaxo plc. The Fund's large endowment supports medical and related research nationally through a grants program and a program of fellowships. The Fund has its headquarters in a facility on the TUCASI campus that is designed for seminars and conferences on health-related topics in which the Triangle universities are major participants.
- **Sigma Xi** in 1990 planned to relocate its headquarters to the TUCASI campus, to include its publications office for the highly regarded American Scientist and a visiting scholars program for research on ethics in scientific research, science policy, and science education. Sigma Xi is the national honor society for science and engineering. In 2003 a change in plans led to a groundbreaking for the Sigma Xi Center elsewhere in RTP. Sigma Xi has had interactions with tenants on the TUCASI Campus and plans to continue these relationships. Sigma Xi received financial support for the Center from TUCASI.

Not all TUCASI programs have been based on the campus within RTP. Three major joint activities have been sponsored by TUCASI (with financial assistance from RTP). These include:

- **The Triangle Research Libraries Network (TRLN)**. Financial support for three years and renewal support for an additional three years enabled the Triangle Libraries to combine

their catalogs into a common computer-accessible database. Scholars at the three universities, or at any university in the State or at any organization in RTP, can access the catalogs of the three libraries, which exceed ten million volumes with only 10% overlap. This combined library constitutes the second largest university research library in the nation.

- **The Triangle Universities Licensing Consortium (TULCO)** was created with financial support from TUCASI as an organization to market and license technology developed at the Triangle universities. TULCO provided these services for approximately five years until volume of licensing at the universities warranted establishment of offices on each of the individual campuses; then TULCO was disbanded with some of its small staff going to offices established on university campuses.
- **The North Carolina Network Initiative (NCNI)** is a consortium of the universities, MCNC, and RTP corporations such as Cisco, Nortel, IBM, and cable providers to create a very high-speed network as a prototype and segment of the national Internet II. NCNI has established national benchmarks for speed of transmission. Work continues in this program.

In summary, TUCASI has sponsored eleven major activities:

**On Campus:**

The National Humanities Center  
MCNC and its units:  
    N.C. Research and Education Network  
    N.C. Supercomputing Center  
N.C. Biotechnology Center  
The National Institute for Statistical Sciences  
The Burroughs-Wellcome Fund

**Off Campus:**

Triangle Universities Library Network  
Triangle Universities Licensing Consortium  
North Carolina Network Initiative  
Sigma Xi, the [national] Science and Engineering Society

These programs have received from the Research Triangle Foundation more than \$20 million in start-up support in addition to a present value of \$7 million for the land comprising the TUCASI campus.

TUCASI has laid out its campus with a master plan, including signage and landscaping; has wired the campus with fiber optics cable for its tenants; and has constructed roads and jogging trails throughout the campus. It maintains a master plan for the campus, with only two building sites remaining uncommitted.