



12-20-1985

University of Tennessee Board of Trustees Exhibit Records, 1985 December 20, Exhibits 1 - 17

University of Tennessee

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The University of Tennessee

PRIMARY CAMPUSES:
Knoxville
Memphis
Martin
Chattanooga

Office of General Counsel and Secretary

Suite 810, Andy Holt Tower
Knoxville 37996-0184
Telephone 615/974-3245

TO: Members of the Board of Trustees

Mr. Tom Elam, Chairman
Mrs. Ann B. Furrow
Mr. James A. Haslam, II
Mr. William M. Johnson
Mr. Ben S. Kimbrough
Mr. T. O. Lashlee
Mr. A. B. Long, Jr.
Dr. Edward J. Boling

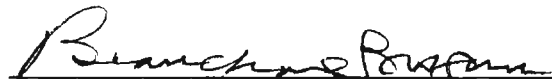
FROM: Beauchamp E. Brogan

DATE: December 4, 1985

SUBJECT: Board of Trustees Executive Committee Meeting
3:00 p.m., Friday, December 20, 1985
Board Room, Andy Holt Tower, Knoxville campus

Upon call of the Chairman, there will be a meeting of the Executive Committee of the Board of Trustees on Friday, December 20, 1985. The primary purpose of the meeting will be to consider proposals for Centers of Excellence for fiscal year 1986-87. This meeting is needed so that the Centers of Excellence proposals can be presented to the Tennessee Higher Education Commission at its January 23, 1986 meeting.

An agenda hopefully will be completed and mailed to you prior to the meeting.


Beauchamp E. Brogan

BEB:11

cc: Members of the Board of Trustees
Members of the President's Staff



The University of Tennessee

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Knoxville
Memphis
Martin
Chattanooga

Office of General Counsel and Secretary

Suite 810, Andy Holt Tower
Knoxville 37996-0184
Telephone 615/974-3245

TO: Members of the Executive Committee, Board of Trustees

Mr. Tom Elam, Chairman
Mrs. Ann B. Furrow
Mr. James A. Haslam, II
Mr. William M. Johnson
Mr. Ben S. Kimbrough
Mr. T. O. Lashlee
Mr. A. B. Long, Jr.
Dr. Edward J. Boling

FROM: Beauchamp E. Brogan

DATE: December 16, 1985

SUBJECT: Board of Trustees Executive Committee Meeting
3:00 p.m., Friday, December 20, 1985
Board Room, Andy Holt Tower, Knoxville Campus

Attached are the agenda and back-up materials for the Executive Committee meeting to be held in Knoxville on Friday, December 20, 1985 in the Board Room of Andy Holt Tower.

Hotel reservations have been made at the Hyatt Regency for those of you who will be coming from out of town and will be staying in Knoxville. If we may be of additional assistance, please let us know.

Beauchamp E. Brogan

BEB:11

Enclosures

cc: Other Members of the Board of Trustees
Mr. Keel Hunt
Members of the President's Staff

ORDER OF BUSINESS

EXECUTIVE COMMITTEE
BOARD OF TRUSTEES
THE UNIVERSITY OF TENNESSEE

December 20, 1985
3:00 p.m.

Board Room
Andy Holt Tower
Knoxville Campus

1. Invocation.
2. Roll call.
3. Approval of an amendment to land acquisition plan -- UTC Campus.
4. Approval of sale of gift property -- Obion County, Tennessee.
Approval of acquisition of property -- Weakley County, Tennessee.
5. Approval of condemnation of Buyck property in the City of Chattanooga.
6. Approval of condemnation of Greenberg property in the City of Chattanooga.
7. Authorization to sell gift property -- Knoxville, Tennessee.
8. Approval of proposed additional Chair of Excellence for 1985-86.
9. Proposed name change -- Department of Anatomy to Department of Anatomy and Neurobiology at UT, Memphis.
10. Recommendations for establishing new Centers of Excellence and extensions of existing Centers of Excellence for 1986-87.
11. Other business.

ROLL CALL
THE UNIVERSITY OF TENNESSEE
BOARD OF TRUSTEES
EXECUTIVE COMMITTEE

December 20, 1985

Mr. Elam

✓

Mrs. Furrow

✓

Mr. Haslam

✓

Mr. Johnson

✓

Mr. Kimbrough

✓

Mr. Lashlee

✓

Mr. Long

✓

Dr. Boling

✓

The University of Te.....

PRIMARY CAMPUSES
Knoxville
Memphis
Martin
Chattanooga

Office of the Vice President
for Administration

Suite 109, Student Services and
Administration Building
Knoxville 37996-0212
Telephone 615/974-1433

December 5, 1985

MEMORANDUM

TO: President Edward J. Boling and Members of the Board
of Trustees

FROM: Charles E. Smith

SUBJECT: **Amendment to Land Acquisition Plan - UTC Campus**

In June 1980 the Board of Trustees adopted Land Acquisition Plans for the major campuses of the University of Tennessee System. Since that time the Administration has realized the need to construct a new physical plant building and an additional dormitory at the University of Tennessee at Chattanooga.

The block north of the existing Physical Plant building has been assembled by one owner, cleared of most of the deteriorating buildings, and been offered to the University. Four of the five lots west of the existing Physical Plant building are vacant or are occupied by substandard dwellings. The remaining lot has a sandwich shop on a 25' X 45' lot. These two areas would provide the best location for the proposed physical plant and dormitory.

The University Administration desires to amend its Land Acquisition Plan for the University of Tennessee at Chattanooga to include the areas mentioned above.

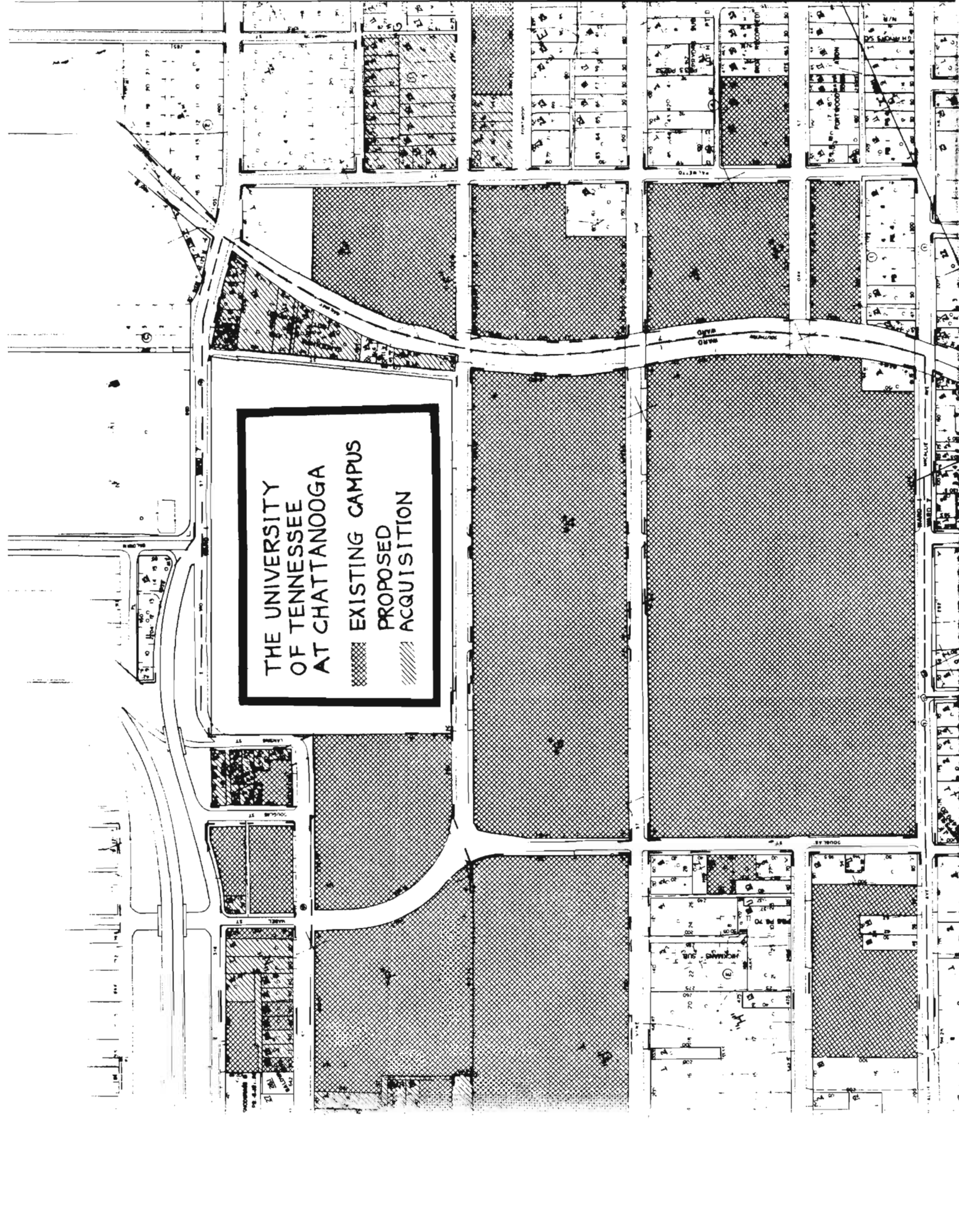
Recommended Board Action:

That the Board of Trustees adopt the attached map as the Land Acquisition Plan for the University of Tennessee at Chattanooga; that the University Administration be authorized to submit the attached Land Acquisition Plan to THEC; and that the University Administration be authorized to purchase, whenever funds are available, lands identified in the Land Acquisition Plan, in full conformance with the policies and procedures for land acquisition adopted previously by the Board of Trustees in full compliance with the rules and regulations of the State Building Commission and the Tennessee Higher Education Commission.



THE UNIVERSITY
OF TENNESSEE
AT CHATTANOOGA

EXISTING CAMPUS
PROPOSED
ACQUISITION



The University of Tennessee

PRIMARY CAMPUSES
Knoxville
Memphis
Martin
Chattanooga

Office of the Vice President
for Administration

Suite 109 Student Services and
Administration Building
Knoxville 37996-0212
Telephone 615/974-1433

October 21, 1985

MEMORANDUM

TO: President Edward J. Boling and Members of the Board of Trustees

FROM: Dr. Charles E. Smith

SUBJECT: **Sale of Gift Property - Obion County, Tennessee**
Acquisition of Property - Weakley County, Tennessee

In 1961 the Department of Health, Education and Welfare of the United States of America gave 35.14 acres of land in Obion County to The University of Tennessee for educational purposes. The University of Tennessee used this property as a part of its Ag Experiment Station for more than 20 years, so the University now owns the property in fee simple.

In 1982 The University of Tennessee sold 3.0 acres of this land to the Stanley Chapel United Methodist Church for expansion of their cemetery. The University now owns 32.14 acres.

This property is about 10 miles from the main portion of the Martin Ag Experiment Station and is adjacent to the Union City Airport.

The Poplar Meadows County Club is adjacent to the University's property. They have expressed an interest in acquiring the University's 32.14 acres at the appraised value for the expansion of their golf course.

The University Administration desires to sell the 32.14 acres of land in Obion County, Tennessee to the Poplar Meadows County Club at a price equal to or greater than the appraised value.

The University of Tennessee wants to use the proceeds from the sale of 32.14 acres to the Poplar Meadows Country Club to acquire approximately 68 acres from Mrs. Homer Benson. Mrs. Benson's property is adjacent to the Martin Ag Experiment Station. Mrs. Benson is willing to sell the property to the University at or below the appraised value. Any funds needed to purchase Mrs. Benson's property in excess of the funds obtained from the sale of the Obion County property will be provided by the Institute of Agriculture-Agricultural Experiment Station from sale of products of the soil.



President Edward J. Boling and Members of the Board of Trustees
October 21, 1985
page 2

The University Administration desires to acquire approximately 68 acres adjacent to the Martin Agricultural Experiment Station from Mrs. Homer Benson at a price equal to or less than the appraised value.

Recommended Board Action:

That the University Administration be authorized to sell 32.14 acres in Obion County, Tennessee to the Poplar Meadows Country Club at a price equal to or greater than the appraised value.

That the University Administration be authorized to buy approximately 68 acres in Weakley County, Tennessee from Mrs. Homer Benson at a price equal to or less than the appraised value.

The University of

PRIMARY CAMPUSES
Knoxville
Memphis
Martin
Chattanooga

Office of the Vice President
for Administration

Suite 109 Student Services and
Administration Building
Knoxville 37996-0212
Telephone 615/974-1433

December 9, 1985

MEMORANDUM

TO: President Edward J. Boling and Members of the Board
of Trustees

FROM: Charles E. Smith

SUBJECT: **Condemnation of Property in the City of Chattanooga**

The University of Tennessee desires to buy a parcel of land adjacent to the University of Tennessee at Chattanooga campus in the City of Chattanooga as described in the attached Resolution. The Board of Trustees approved the acquisition of this parcel in June 1980.

This parcel was appraised by W. Lawrence Reeve, M.A.I., S.R.P.A., on contract with the Office of Real Property Management in the Division of Finance and Administration. Mr. Reeve appraised the lot at \$20,700.00.

The University Administration approached Mr. and Mrs. Buyck and offered them the appraised value for the lot. Mr. Buyck refused to sell the lot for the appraised value, but offered to sell the lot for \$65,010.00.

The University Administration desires to condemn this property in order to acquire the property at a fair market value.

Recommended Board Action:

That the University Administration be authorized to condemn the parcel of land listed below and more completely described in the attached "Resolution Authorizing Condemnation of Property":

Let 7, Block 1, Bluff View Land Company's Sub Division of Blair and Burk Tract.



RESOLUTION AUTHORIZING CONDEMNATION OF PROPERTY

WHEREAS, in the judgment of the Board of Trustees of The University of Tennessee, acting pursuant to Tennessee Code Annotated, Section 29-17-301, as amended, it is necessary to acquire the property hereinafter described for the use and operation of The University of Tennessee.

BE IT RESOLVED, That in accordance with the University's plan of improvement and development now in effect, it is the policy and decision of the Board of Trustees to acquire for the use and operation of The University of Tennessee certain property in the City of Chattanooga, Tennessee, hereinafter described, for the purpose of providing a site for University buildings, campus grounds, parking lot areas and/or other improvements to serve its needs and the needs of its faculty, staff and students.

BE IT FURTHER RESOLVED, That in the judgment of this Board of Trustees it is now necessary and funds are available to condemn and appropriate the following described property for the use and operation of The University of Tennessee and specifically for the purpose of providing a site for University buildings, campus grounds, parking areas and/or other improvements to serve its needs and the needs of its faculty, staff and students. Said property is located in the First Civil District of Hamilton County, Tennessee and is more particularly described as follows:

Lot 7, Block 1, Bluff View Land Company's Subdivision of the Blair and Burk Tract, as shown by plat of record in Plat Book 5, Page 63 in the Register's Office of Hamilton County, Tennessee. Said plat fronts 50 feet on the Southern line of Harrison Avenue, now East Third Street, and extends Southwardly, between parallel lines and along the Eastern line of Mabel Street, 100 feet to an alley. Said lot is fully described in Deed Book 1333, Page 120 of the Register's Office of Hamilton County.

BE IT FURTHER RESOLVED, That The University of Tennessee shall condemn and appropriate said property and the University's General Counsel is hereby authorized to institute and prosecute to completion eminent domain proceedings for and on behalf of The University of Tennessee to condemn and appropriate for said University the above-described property for the public purposes above mentioned.

The University of _____

PRIMARY CAMPUSES
Knoxville
Memphis
Martin
Chattanooga

Office of the Vice President
for Administration

Suite 109 Student Services and
Administration Building
Knoxville 37996-0212
Telephone 615/974-1433

December 9, 1985

MEMORANDUM

TO: President Edward J. Boling and Members of the Board
of Trustees

FROM: Charles E. Smith

SUBJECT: **Condemnation of Property in the City of Chattanooga**

The University of Tennessee desires to buy six (6) parcels of land adjacent to the University of Tennessee at Chattanooga campus in the City of Chattanooga as described in the attached Resolution. The Board of Trustees approved the acquisition of these parcels in June 1980.

These parcels belong to Paul L. Greenberg and wife, Joy U. Greenberg. These parcels contain a total of 17,420 square feet, and are all vacant.

These parcels were appraised by W. Lawrence Reeve, M.A.I., S.R.P.A., on contract with the office of Real Property Management in the Division of Finance and Administration. Mr. Reeve appraised these six lots at \$52,300.00.

The University Administration approached Mr. Greenberg and offered him the appraised value for these six lots. Mr. Greenberg refused the offer and stated that he thought the property was worth three times the price quoted to him.

The University Administration desires to condemn this property in order to acquire the property at a fair market value.

Recommended Board Action:

That the University Administration be authorized to condemn six (6) parcels of land listed below and more completely described in the attached "Resolution Authorizing Condemnation of Property":

Lot 2, Replat of Lot 1, Burris Addition
Lot 3, Replat of Lot 1, Burris Addition
Lot 7, Replat of Lot 1, Burris Addition
Lot 8, Replat of Lot 1, Burris Addition
Lot 9, Replat of Lot 1, Burris Addition
Lot 11, Replat of Lot 1, Burris Addition



RESOLUTION AUTHORIZING CONDEMNATION OF PROPERTY

WHEREAS, in the judgment of the Board of Trustees of The University of Tennessee, acting pursuant to Tennessee Code Annotated, Section 29-17-301, as amended, it is necessary to acquire the property hereinafter described for the use and operation of The University of Tennessee.

BE IT RESOLVED, That in accordance with the University's plan of improvement and development now in effect, it is the policy and decision of the Board of Trustees to acquire for the use and operation of The University of Tennessee certain property in the City of Chattanooga, Tennessee, hereinafter described, for the purpose of providing a site for University buildings, campus grounds, parking lot areas and/or other improvements to serve its needs and the needs of its faculty, staff and students.

BE IT FURTHER RESOLVED, That in the judgment of this Board of Trustees it is now necessary and funds are available to condemn and appropriate the following described property for the use and operation of The University of Tennessee and specifically for the purpose of providing a site for University buildings, campus grounds, parking areas and/or other improvements to serve its needs and the needs of its faculty, staff and students. Said property is located in the First Civil District of Hamilton County, Tennessee and is more particularly described as follows:

Lot 2, Replat of Lot 1, Burris Addition, bounded on the North by the South line of East Third Street, on the East by the West line of Lansing Street, on the South by the North line of an alley, and on the West by the East line of Douglas Street. Said lot is fully described in Deed Book 2889 on Page 492 of the Register's Office of Hamilton County.

Lot 3, Replat of Lot 1, Burris Addition, beginning in the Western line of Lansing Street, formerly Mott Street, 65 feet Northwardly of its intersection with the North line of Mott, now East Fourth Street; thence Westwardly, parallel to East Fourth Street, 60 feet; thence Northwardly, parallel to Lansing Street, 43 feet; thence Eastwardly, parallel to East Fourth Street, 60 feet to the Western line of said Lansing Street; thence Southwardly, along said line, 43 feet to the point of beginning. Said lot is fully described in Deed Book 2894 on Page 346 of the Register's Office of Hamilton County.

Lot 7, Replat of Lot 1, Burris Addition, beginning at a point on the East line of Douglas Street 90 feet North of East Fourth Street; thence Northwardly along the East line of Douglas Street 25 feet; thence Eastwardly parallel with East Fourth Street 60 feet, more or less, to the Columbus Cox line; thence Southwardly and parallel with Douglas Street 25 feet; thence Westwardly 60 feet to the beginning. Said lot is fully described in Deed Book 2575 on Page 531 of the Register's Office of Hamilton County.

Lot 8, Replat of Lot 1, Burris Addition, beginning at a point on the East line of Douglas Street, which point is located 115 feet Northwardly of the North line of East Fourth Street and at the Southwest corner of the lot conveyed by J. A. Wardlaw and wife to Fannie L. Jones by deed registered in Book P, Volume 15, Page 235 of the Register's Office of Hamilton County, Tennessee; running thence Northwardly along the East line of Douglas Street 41 1/2 feet, more or less, to the Southwest corner of the lot conveyed by Zola E. McIntire to Mae Wilson by deed registered in Book I, Volume 20, Page 457 of said Register's Office; running thence Eastwardly along the South line of said Wilson lot 60 feet, more or less, to the West line of the property known as the Cox lot; thence Southwardly parallel with the East line of Douglas Street 41 1/2 feet, more or less, to the Northeast corner of the Fannie L. Jones lot; thence Westwardly along the North line of said Jones lot 60 feet, more or less, to the point of beginning. Said lot is fully described in Deed Book 2575 on Page 531 of the Register's Office of Hamilton County.

Lot 9, Replat of Lot 1, Burris Addition, being the North 20 feet of the West 60 feet of Lot 1, sometimes known as Lot 1 of Oldham and Bacon Tract. Said lot is fully described in Deed Book 2575 on Page 531 of the Register's Office of Hamilton County.

Lot 11, Replat of Lot 1, Burris Addition, beginning on the West side of East Fourth Street where it turns to the North 108 feet from the corner opposite the Citizens Cemetery; thence North along the West line of East Fourth Street 32 1/2 feet to the Southeast corner of the lot sold by Michael Schnee to W. P. Reddig; thence Westwardly at right angles along Reddig's South line 100 feet; thence at right angles Southwardly 32 1/2 feet to the Northwest corner of R. D. Twinam's lot; thence at right angles Eastwardly along the North line of the R. D. Twinam and May C. Marston's lot 100 feet to the beginning. Said lot is fully described in Deed Book 2575 on Page 531 of the Register's Office of Hamilton County.

BE IT FURTHER RESOLVED, That The University of Tennessee shall condemn and appropriate said property and the University's General Counsel is hereby authorized to institute and prosecute to completion eminent domain proceedings for and on behalf of The University of Tennessee to condemn and appropriate for said University the above-described property for the public purposes above mentioned.

The University of Tennessee

PRIMARY CAMPUSES
Knoxville
Memphis
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Chattanooga

Office of the Vice President
for Administration

Suite 109, Student Services and
Administration Building
Knoxville 37996-0212
Telephone 615/974-1433

December 12, 1985

MEMORANDUM

TO: President Edward J. Boling and Members of the Board
of Trustees

FROM: Charles E. Smith

SUBJECT: **Authorization to Sell Gift Property - Knoxville,
Tennessee**

Dr. and Mrs. Lee A. Absher gave to The University of Tennessee on October 22, 1985 a house and lot on the corner of Broadway and Rider Avenue in Knoxville. Two-thirds of the proceeds from the sale will be used to establish the Mr. and Mrs. Lytle A. Absher Library Memorial Endowment Fund on the UTK campus and one-third shall be used to establish the Dr. and Mrs. Lee A. Absher Medical School Library Memorial Endowment Fund at the University of Tennessee, Memphis.

The University Administration desires to sell this house and lot at or above the appraised value.

Recommended Board Action:

That the University Administration be authorized to sell the house and lot on the corner of Broadway and Rider Avenue in Knoxville, Tennessee at a price equal to or greater than the appraised value.





The University of Tennessee

PRIMARY CAMPUSES:

Knoxville
Memphis
Martin
Chattanooga

EXHIBIT 6
EXECUTIVE COMMITTEE MEETING
DECEMBER 20, 1985

and vice president for development

605 Andy Holt Tower
Knoxville 37996-0166
Telephone 615/974-2206

December 2, 1985

TO: President Ed Boling
The University of Tennessee's
Board of Trustees

FROM: Joe Johnson

SUBJECT: Proposed Additional Chair of Excellence for
1985-86

At its 1985 June meeting The University of Tennessee's Board of Trustees approved the allocation of the ten 1985-86 Chairs of Excellence with three to UTK, two each to UTC and UT Memphis, one to UT Martin, and two to a reserve status with priority on one for UT Martin in the event it matches its remaining 1984-85 Chair and its one 1985-86 Chair. Subsequently, the Board allocated one of the reserve Chairs to UT Memphis which had a commitment of \$500,000 in gift funds for a match.

The unallocated State of Tennessee matching Chair of Excellence endowment funds for The University of Tennessee have earned enough interest to provide another \$500,000 match for the University, and State officials have authorized the use of these earnings for another Chair match.

Therefore, the University administration recommends that the Board of Trustees approve an eleventh Chair of Excellence for 1985-86 and the placement of this Chair in a reserve status. The administration will recommend a specific program and campus or institute allocation later in the 1985-86 fiscal year.

JEJ:mm



The University of Tennessee

PRIMARY CAMPUSES:
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Memphis
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Chattanooga

EXHIBIT 7
EXECUTIVE COMMITTEE MEETING
DECEMBER 20, 1985

and Vice President for Development

605 Andy Holt Tower
Knoxville 37996-0166
Telephone 615/974-2206

December 16, 1985

TO: Executive Committee of the
UT Board of Trustees

FROM: Joe Johnson

SUBJECT: The Eric Muirhead Chair of Excellence in
Pathology at The University of Tennessee,
Memphis

The Baptist Memorial Hospital in Memphis and the pathologists of the Department of Pathology of the Baptist Memorial Hospital have contributed \$500,000 toward the Eric Muirhead Chair of Excellence in Pathology at The University of Tennessee, Memphis. These private gift funds will be used to match \$500,000 in State of Tennessee Chair of Excellence funds to form an endowment of \$1,000,000 for this Chair of Excellence.

This Chair is named in honor of Dr. E. Eric Muirhead, who has headed the Baptist Hospital Department of Pathology for many years, has chaired and served as a valuable faculty member in the UT Department of Pathology, and has a national reputation in research.

Pathology is a basic and clinical health science which serves all programs at UT Memphis. It is critical to excellence in clinical services, research, and teaching.

In recognition of the need for this Chair, the generous \$500,000 gift, and the stature of Dr. Eric Muirhead, the University administration recommends approval of the Dr. Eric Muirhead Chair of Excellence in Pathology at UT Memphis.

JEJ:mm
Attachment



The University of Tennessee

PRIMARY CAMPUSES:

Knoxville
Memphis
Martin
Chattanooga

Office of the Executive Vice President
and Vice President for Development

605 Andy Holt Tower
Knoxville 37996-0166
Telephone 615-974-2206

October 24, 1985

Dr. Eric Muirhead
Professor and Chairman
Department of Pathology
College of Medicine
The University of Tennessee at Memphis
Memphis, Tennessee 38163

Dear Eric:

I join a lot of University of Tennessee folks in thanking you, your colleagues at the Baptist Memorial Hospital, and the Baptist for the generous gift of \$500,000 to create a Chair of Excellence in Pathology at The University of Tennessee in Memphis. This gift and the matching State of Tennessee funds will provide a permanent \$1,000,000 endowment for the benefit of pathology in our College of Medicine.

Congratulations on this decision of your professional colleagues to name this Chair of Excellence for you. This action is a well-deserved tribute to you as a person, a physician, a researcher, and a teacher. It is an honor for UT Memphis to have your name permanently affixed to a truly major endowed Chair.

I look forward to seeing you soon and am indeed grateful for all you have done and continue to do for The University of Tennessee.

Sincerely yours,

Joseph E. Johnson
Executive Vice President and
Vice President for Development

JEJ:nph
cc: Dr. Jim Hunt
Mr. Curtis Smith
Mr. Joe Powell



October 17, 1985

E. Eric Muirhead, M.D.
Professor and Chairman
Department of Pathology
The University of Tennessee, Memphis

Dear Eric:

On behalf of the students, staff and faculty of the University of Tennessee, Memphis, our sincere thanks to you and the pathologists of the Baptist Memorial Hospital for your most generous contribution of \$370,000.000 to help accomplish a Chair of Excellence in Pathology at our University. It is meaningful when philanthropic contributions are made by any person or group. It is especially meaningful when philanthropic contributions are made by one's colleagues and associates.

The check will be deposited in accordance with usual policy of the University of Tennessee and will be utilized to help support an endowed professorship in Pathology at U. T. Memphis. The Baptist Memorial Hospital has agreed to supplement this contribution to complete the \$500,000.00 of necessary matching monies to accomplish an E. Eric Muirhead Professorship in Pathology. We expect to make a public announcement in this regard in the near future.

Again, please express our sincere appreciation to your colleagues. It is clear that they hold you in great personal and professional esteem and that this is well deserved and has been earned over a long period of time.

Sincerely,

James C. Hunt, M.D.
Chancellor

jch:101785:ss/16

cc: Joseph H. Powell
Joseph E. Johnson, Ed.D.
Curtis M. Smith



CHAIR OF EXCELLENCE IN PATHOLOGY

- (1) **Title of Proposed Chair:**
E. Eric Muirhead Professorship in Pathology
- (2) **Source of Institutional Match:**
Baptist Memorial Hospital and its Pathology Staff
- (3) **Department Where Chair is Located:**
Department of Pathology
- (4) **Programmatic Impact:**

The establishment of the Muirhead Chair of Excellence in Pathology at UTCHS will represent a tremendous accomplishment for this basic science, not only in the State of Tennessee and this Mid-South region, but in the entire nation. It will serve notice nationwide of the seriousness of commitment by The University of Tennessee and the State of Tennessee toward academic and other pursuits related to the discipline of pathology. Pathology is a seminal necessity for the proper pursuits of a well integrated basic science division of a medical center and an essential activity for a well rounded clinical science center of high quality.

Pathology is quite unique in several respects. It is the basic science that has the most intimate contact with the clinical sciences. This contact tends to make pathology also a clinical science. As a basic science, pathology has a wide spectrum of experimental associations, including involvement in cancer research, cardiovascular research, molecular biology, endocrine research, the neurosciences, immunological diseases, genetic abnormalities, and many other biomedical entities.

In cancer research and in a cancer center, pathology is an indispensable contributor. The nosologic approach is foremost and has contributed greatly to the understanding of cancer and its variations, its controls, its ravages. This established contribution will only grow in the future. Today and in the future, the control of cancer is and will be greatly dependent on this approach. For instance, some cancers are being brought under control or near control, i.e., with prolonged and productive survival, by their subclassification. Cures of Hodgkin's disease, other lymphomas, leukemias, some undifferentiated cancers, even after metastasis, are now accepted. However, the ultimate goal remains far off. Nosology will continue to be the means of separating out the curable and controllable cancers. Only pathology can enter into this separation at the moment and for the foreseeable future. Nosology is in transition. This is where greater research efforts are needed. The newer technics of molecular biology (molecular probes), immunohistochemistry, electron microscopy (transmission, scanning, with immunochemistry with chemical probes) and tissue culture (including the biochemistry of the derived cells--secretory capacity, types of secretion, etc.) will be essential to separate, classify and project therapeutic possibilities. In this respect, the study of polyploidy (the abnormal DNA content of cancer cells) is just appearing on the horizon. This technic will allow the identity of cancer, on occasions,

before the eyes of the pathologist can appreciate it. It will also allow for evaluation of the effect of various therapeutic approaches. But this science still must be coupled with the ultimate nosologic classification in order to apply it to the different cancers afflicting the body. Moreover, whatever approaches are used in a clinical (patient) setting is also used in an experimental (animal) setting. So the pathologist is called upon to assist in both the experimental understanding of cancer and its clinical treatment and/or control.

The immunologic consideration of cancer and cancer research are also of great moment, presently. Such matters as surface markers of cancer cells and their use for identification, classification and treatment represent part of the research of the future. Here there is not only great room for basic research but also the application in specific therapy. A combination with industry is also possible and likely very worthwhile. For instance, the production of monoclonal antibodies to these markers can be useful in identification and classification and possibly in therapy. To these antibodies, therapeutic agents can be coupled and the cancer can be specifically targeted--truly "magic bullets" can be developed. This, at the moment and for the future, is a great challenge in this field.

One cannot have a "top-notch" cancer center without a progressive, research and clinically oriented department of pathology. The Chair of Excellence would be most helpful in this most important area of research and development.

Applications of the immune system to cancer control represents another area where pathology can be most useful. Some lethal experimental cancers can be brought under control (meaning a normal life span) by the manipulation of cells of the immune system. This can be done today--tomorrow's challenge is the translation of this knowledge to human disease. It will come. A well-oriented department of pathology through the Chair of Excellence can be part of this future in an established cancer center.

The future community needs in basic and applied biomedical research relate heavily to the so-called degenerative diseases, of the younger and of the aged. As infectious diseases and surgically remediable diseases come under control, the degenerative diseases assume a foremost position in biomedical research and disease control. Pathology can be and is involved either in basic research or in interdisciplinary research conducted by other basic scientists. The autoimmune disease, a rapidly growing group of diseases, is a case in point. There is a great future here, especially related to the courses of these immune aberrations. One need only mention rheumatoid arthritis to delineate the immensity of this challenge.

Atherosclerosis, described by pathologists and studied through the years, mostly by pathologists, is one of the greatest killers of mankind, being responsible for heart attacks and strokes as well as other lethal diseases. Some of the greatest advances in the understanding of this disease have come from the discovery of vascular smooth muscle growth factors by a group of pathologists. A modern biomedical research center should include an attack on this scourge. A strong, research-oriented pathology department can add tremendously to the understanding and prevention of this disease. The Chair of Excellence could add considerably to our attack on this disease.

The neurosciences are another area where pathology plays a most important role. Neuropathology is an integral part of any neuroscience center. First, is

the identification of diseases of the brain, the spinal cord, nerves and neuroeffector zones. Second, is the involvement in the pathogenesis of these diseases, such as Alzheimer disease, the diseases due to the slow viruses, etc. Third, is the basic research toward control and cure of these devastating diseases. Moreover, the neuropathologist is also involved in basic research of the brain, nerves, etc. Neuropathologists perform research on neurotransmitters, functional and dysfunctional areas of the brain, etc.

Hypertension and its damage to the heart and blood vessels is responsible for much morbidity and mortality in this country. Altogether, cardiovascular disease is the greatest killer of Americans. Presently at UTCHS, research in this area is among its strongest. This has resulted from interdisciplinary approaches between physiology, pharmacology, endocrinology, medicine and pathology. The Chair of Excellence in Pathology will add greatly to this already existent major effort in research. Yet, much work is needed in bringing all aspects of hypertension under control.

The pathologist, more than any other basic scientist, interacts with his clinical colleagues--those responsible for the care of patients. The pathologist is a consultant to practicing physicians. It has been said that he is "a doctor's doctor." This interaction is absolutely essential for the proper conduct of modern medicine. This is accomplished through laboratory medicine and anatomic pathology, i.e., mostly surgical pathology and cytology. These matters are not only essential for regular medical care but they must be incorporated into many types of clinical research. The "structure-function" approach to medicine remains the most potent. Thus, the Chair, by strengthening all aspects of pathology, would add greatly to medical care and the understanding of disease in the human.

One of the most significant impacts of the Muirhead Chair of Excellence in Pathology to accrue to undergraduate health professional students on the UTCHS campus is access to a creative, high quality researcher and educator. These students will have direct access to the Chair recipient on both a formal and informal basis. In course work, the recipient will bring an enlarged and refined view of pathology, cytology, and the interplay of these disciplines to the classroom which cannot help but increase the quality and sophistication of our undergraduate students. Informally, students will receive an opportunity of pursuing information in the recipient's area of expertise either through one-on-one discussion of topic covered in formal lectures or as part of summer research projects.

Most of the above deal with internal benefits at UTCHS and Tennessee and its regional community. However, there are major external benefits to be derived. By creating an environment of excellence, the Chair would add greatly to the local attractiveness to scientists in other areas. Thus, young physicians interested in pathology would congregate at the Memphis Medical Center. More importantly, this environment would add greatly to the development of local medical students into better equipped physicians and some into scientists. Residents, fellows, post-doctoral fellows, graduate students, and the support for these individuals would be enhanced. It would make it much easier to expand the department and enhance its capabilities.

The exchange of ideas and evaluation of progress in research are of great benefit in the development of scientific research. This is ongoing, but the Chair

of Excellence would add greatly to these approaches. By building on the prestige of the University, it assists in attracting grant and other monies for research.

(5) Benchmarks of Progress:

Year 1:

- a. The first approach will be to identify an outstanding pathologist with both a major scientific background and a background in the applied activities of pathology. This combination is essential in view of the nature of the discipline, i.e., with a major biomedical scientific base and with a major clinical diagnostic-scientific base. To overemphasize one at the expense of the other has created problems in several institutions. It is, however, possible to identify and recruit a pathologist with an outstanding record in the scientific community and the ability to coordinate other activities. Most major scientific-academic centers have such individuals.
- b. The pathologist so selected will have not only a national but an international reputation as a scientist in one of the major areas delineated in the Programmatic Impact sections. He will have contributed at national and international meetings and will have a substantial track record in highly critical peer review journals. He will belong to the outstanding societies in the field of pathology and in biomedical research. This type of individual will be in a position to attract other major scientists to give seminars locally, to interchange ideas, to interchange younger scientist in each other's laboratories and to participate in peer reviews of various applications for grant support.
- c. The occupant of the Chair will be able to attract young scientists to the department and to develop scientists from the local academic communities.
- d. Because of his background in excellence, the incumbent will direct and participate in the more routine and the specialized academic functions of the Department of Pathology.

Year 2:

- a. All activities of Year 1 will be continued.
- b. Applications for research support will be submitted, both competing of ongoing research and new applications.
- c. Interdisciplinary activities of the Department will be emphasized, as in the cancer center, in neuroactivities (with neuroscience, neurology, neurosurgery), with medicine, surgery, etc.
- d. Scientific publications from the Department will continue.
- e. Seminars will be developed bringing outside speakers (national and international) as well as local speakers. Course work in the graduate school will be updated.

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Year 3:

- a. All activities of Years 1 and 2 will be continued.
- b. Greater productivity in the research will be evident, including more grant support and more publications in peer review journals.
- c. Status of the Department will achieve a leap forward in its national and international reputation. There is already an element of this. The research activities of multiple disciplines involved in hypertension research is already referred to nationally and internationally as that of "The Memphis Group." This reputation, as well as that in other areas, will markedly improve.
- d. The environment created will have an impact on students, residents, fellows and the relation with other departments on campus.

(6) Tentative Budget:

It is assumed that the budget will become operative on or about July 1, 1987. Tentatively, it is considered at \$100,000.00 per annum. Whatever is available prior to the appearance of the incumbent will be used for embellishing the research potential of the Chair, equipment, etc.

Year 1:

	Chair of Excellence	Unrestricted University	Restricted Gts & Cnts	Total
Academic Salaries & Benefits	\$ 50,000	\$25,000		\$ 75,000
Support Personnel	20,000		\$ 20,000	40,000
Equipment	10,000	20,000		30,000
Operating	<u>20,000</u>	<u>15,000</u>	<u>20,000</u>	<u>55,000</u>
Total	\$100,000	\$60,000	\$ 40,000	\$200,000

Year 2:

	Chair of Excellence	Unrestricted University	Restricted Gts & Cnts	Total
Academic Salaries & Benefits	\$ 52,500	\$26,000	\$ 20,000	\$ 98,500
Support Personnel	21,000		21,000	42,000
Equipment	10,000		20,000	30,000
Operating	<u>16,500</u>	<u>10,000</u>	<u>30,000</u>	<u>56,500</u>
Total	\$100,000	\$36,000	\$ 91,000	\$227,000

Year 3:

	Chair of Excellence	Unrestricted University	Restricted Gts & Cnts	Total
Academic Salaries & Benefits	\$ 55,100	\$27,000	\$ 50,000	\$132,100
Support Personnel	22,000		42,000	64,000

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Equipment	10,000		20,000	30,000
Operating	<u>12,900</u>		<u>35,000</u>	<u>47,900</u>
Total	\$100,000	\$27,000	\$147,000	\$274,000

(7) Relationship of the Chair to the UTCHS Mission:

The dual mission of a University is to educate students and create an atmosphere for the advancement of knowledge, considered in the general terms of education and research. Translated to UTCHS, this means the graduation of health professional students of a high quality and establishing a research base that is not only effective in its own right but establishes a stimulating atmosphere. The ultimate effect is to have an excellent level of performance by students and faculty. In a medical institution, there is also the need for involvement in service and patient care at the most effective level.

The establishment of an outstanding faculty represents the best means to carry out the institutional mission. Having a Chair of Excellence in Pathology will assist greatly in this outcome. This discipline is pivotal between the basic and clinical sciences by lending substance to research, service and patient care. The by-products of such a chair accrue benefits to all across the State of Tennessee.

(8) Description of Candidate for the Chair:

The candidate for this Chair should have a national and international reputation as a scientist. In addition, he or she should have administrative skills, communicate well with undergraduate and post-graduate students and colleagues. His or her stance should emphasize diagnostic skills in cancer and an understanding of the mix involved in the discipline of pathology, the basic science aspect and the clinical aspect. Research accomplishment can be in any of the various areas covered by pathology, so long as the research is of high quality and well evaluated by peers. The capability of dealing with interdisciplinary research is a must, as pathology does cover wide interdisciplinary areas. The candidate should be a stimulus to research in related disciplines and especially for young faculty and graduate students.

Revised
8-26-85

University of Tennessee, Memphis

PROPOSAL

To change the name of the Department of Anatomy at the University of Tennessee, Memphis to the Department of Anatomy and Neurobiology.

RATIONALE

The addition of the term, Neurobiology, to the name of the Department of Anatomy more accurately reflects the activities of the Department. We have developed a nationally and internationally visible Department of Anatomy through its activities in neurobiology under the leadership of Dr. S. T. Kitai. We have achieved a Neuroscience Center of Excellence, and Dr. Kitai has initiated a multi-departmental program in Neuroscience. We are using the achievements of Dr. Kitai's Department and the Neuroscience Program in general to attract individuals to the medical school in other areas related to the Neurosciences, including Neurology, Psychiatry, Neurosurgery and the developmental fields addressed particularly by the Child Development Center. The addition of the name, Neurobiology, to the Department will serve as a real focus for both internal and external consumption. It will enhance the national and international visibility of what is going on in the Department. Furthermore, the addition of Neurobiology to the name is in keeping with what is going on in similar departments around the nation. Other departments of Anatomy have added either something like Neurobiology or Cell Biology to their names, to call attention to the dynamic nature of what is going on in Departments of Anatomy. Anatomy is a relatively static discipline taken in its traditional definition. New and aggressive things are going on in departments around the country, and they should be recognized, for a number of reasons, not least among which is to enhance the visibility and chances for further success for the future.

Neurogenetics & Neurochemistry Programmatic Extension

UT, Memphis Neuroscience Center

The brain is the last great frontier in biology. Scientific inquiry has produced our detailed knowledge of the physical world and our present deep understanding of most aspects of biology. Yet, certain questions that have been with us since the beginning of human inquiry (the nature of consciousness, thought, and memory) remain so far unanswered. Neuroscience is now at an exciting threshold. Areas requiring attention include disorder-of movement such as Parkinson's diseases, hereditary conditions such as Huntington's disease, the problems of dementia characterized by Alzheimer's disease, and the disabilities resulting from traumatic injuries to the nervous system.

Much of the recent progress in neuroscience can be attributed to the multidisciplinary approach to problems which has been adopted. New techniques combine methods from two or more traditional disciplines. Strong investigators in neuroscience need to have a deep knowledge of several fields. With few exceptions, such an ability is created and fostered in multidisciplinary environments.

The Center for Neuroscience has the potential of attracting top-flight senior-level scientists who would add to the breadth of neuroscientific research. Neuroscience is established on the campus in that the faculty already includes a significant number of productive, skilled, and innovative neuroscientists who, between them, represent mastery of most fields of brain research. Almost as importantly, the physical limits to growth have not yet been reached: space is available within the Wittenborg building that can be renovated into research laboratories.

The Center for Neuroscience now comprises 41 scientists in 11 basic science and clinical departments. They represent expertise in the fields of neuroanatomy, physiology, peptide chemistry, pharmacology, behavior, biophysics, computer science, and immunology in addition to clinical skills in neurology, neurosurgery, and psychiatry. Through the Center for Neuroscience, the University of Tennessee, Memphis is able to provide expertise and important scientific contributions in all but a few of the disciplines that make up modern neuroscience. However, two recently emergent fields, neurochemistry and neurogenetics, are not represented in the Center for Neuroscience. These two are important, not only because they represent significant research activity, but also because each field has recently produced several practical results that will lead to major advances in the treatment of neurological disease: understanding of pathophysiologic mechanisms underlying the disorders and their treatment will emerge from neurochemical investigation; the establishment of genetic histories for exploration of other diseases, the development of genetic probes and the evolution of strategies for "walking the chromosome" toward capture of the gene for hereditary human diseases are only possible for experts in neurochemistry and neurogenetics.

The specific goal of the programmatic expansion is, therefore, to recruit two senior-level scientists, one in neurogenetics and the other in neurochemistry, and a proportionate number of support personnel to the Center for Neuroscience. However, the campus must first renovate former lecture hall space into two research laboratories, and FY 86-87 funding is recommended for this purpose.

	<u>FY 86-87 State Funds Requested</u>	<u>FY 86-87 Institutional Match</u>	<u>FY 86-87 TOTAL</u>
Priority 1	\$120,000	\$60,000	\$180,000
Priority 2	\$5,000	\$2,500	\$7,500

Mathematics & Computer Science P

UTK Science Alliance

The inclusion of a Mathematics and Computer Science division in the Science Alliance is a necessary step to ensure that the most complete standards of scientific excellence will be maintained by the Physics, Chemistry, and Biology divisions. The goal of the proposed Mathematics and Computer Science division is to increase the scope of research in mathematics and computer science by establishing close ties with interests at Oak Ridge National Laboratory (ORNL) and to expand support of the UTK-based community of mathematicians and computer specialists. Some scientists from the Department of Mathematics and Computer Science are already involved in Science Alliance research in the existing three divisions. Establishing a fourth division would expand the research in this area and bring a deservedly greater focus to a discipline that is becoming increasingly important to science and society.

The nine objectives of the Science Alliance, listed in the December 1983 proposal, apply fully to the new Mathematics and Computer Science division:

1. Formalize a strong University/Laboratory bond.
2. Hire joint Distinguished Scientists.
3. Create joint institutes.
4. Share resources.
5. Join in technology transfer.
6. Build subareas of common strength.
7. Provide incentives for quality faculty and students.
8. Strengthen the educational opportunity for faculty and students.
9. Make the image of partnership visible.

The Mathematics and Computer Science Division will meet the objectives through the continued fostering of research and of interactions with Oak Ridge National Laboratory (ORNL) in a variety of selected areas: numerical analysis, differential equations, mathematical ecology, core mathematics, pattern/image analysis, and machine intelligence. Researchers in these areas already share close ties with colleagues at ORNL and in the current divisions of the Science Alliance. Creating a new division will keep research at high levels.

Although the disciplines of mathematics and computer science have their own research and teaching agendas, they also provide service to an array of other disciplines across the campus. There is, thus, a synergistic effect, and resulting improvements throughout the University and at ORNL. The Alliance's forging of such links makes it a nationally unique resource, and benefits go beyond the academic sphere to include matters of interest to new business and industry across the state.

Funding is recommended for modest equipment enhancements, and for support of permanent and visiting faculty, graduate assistants, and support personnel.

	<u>FY 86-87 State Funds Requested</u>	<u>FY 86-87 Institutional Match</u>	<u>FY 86-87 TOTAL</u>
Priority 1	\$366,667	\$328,660	\$695,327
Priority 2	\$33,000	\$16,500	\$49,500

Elementary Science Extension

UTM Center for Science and Mathematics Education

Outstanding elementary (primary/intermediate) teachers who teach science in the Mid-Cumberland, Northwest, and Southwest Tennessee State Department of Education Service Centers will be identified and selected to participate in a honors program under the auspices of The University of Tennessee at Martin. The efforts to locate and recruit these truly exemplary classroom teachers will be extensive and thorough. Ultimately, selection for the program will be based upon face-to-face interviews subsequent to the initial screening of paper credentials.

The project commits itself to the following goals for those who participate in it:

- (1) acquisition of ability to organize and conduct elementary science workshops across Tennessee;
- (2) mastery of skill in analyzing and selecting appropriate curriculum and instructional materials for Tennessee classrooms;
- (3) personal renewal of teachers' expertise in elementary science methods and content;
- (4) public recognition for their extraordinary accomplishments in, and professional commitment, to excellence in elementary science; and
- (5) development of leadership skills.

Salient features of the project are as follows:

- (1) relevant application of computer science,
- (2) teaching strategies (Tennessee Career Development Modules and effective teaching techniques) particular appropriate for children in the elementary school,
- (3) creation of instructional materials when such materials are non-existent,
- (4) active participation of natural science faculty members.

Inherent in the project's design is the development of collegial relationships that will form the nucleus for a powerful network of elementary science leaders who will eventually provide professional service to each of the nine Education Service Centers in the state. Initially, participants from three target Centers will constitute an experimental group; pre- and post-test assessments of participants and their students will allow for a research design that compares gains against control groups not selected. The primary/intermediate classroom teachers will be teamed with their respective building principals and supervisors. These teams will work with UTM faculty members and Tennessee State Department of Education personnel. UTM graduate and undergraduate students will assist in implementing the model, and will participate in the assessment research design.

Funding is recommended to purchase necessary equipment, to hire a field coordinator with specific research expertise, and to support participant and student involvement.

This proposed program addresses the national problem of preparing tomorrow's scientists -- a process that must start with students who are at a period in their lives which is markedly more formative than the high school years. This is a formidable challenge in Tennessee -- a state in which it is not unusual for elementary science to be postponed until the upper elementary grades, especially in rural locales.

<u>FY 86-87 State Funds Requested</u>	<u>FY 86-87 Institutional Match</u>	<u>FY 86-87 TOTAL</u>
\$250,000	\$125,000	\$375,000

Center for Pediatric Pharmacokinetics & Therapeutics
(New Proposal)

UT, Memphis

The proposed Center for Pediatric Pharmacokinetics and Therapeutics will bring together, for the first time, a comprehensive multidisciplinary program dedicated to the development of more effective drug treatments for infants and children. Almost in parallel with the benefits of many potent new drugs have been a balancing increment of risk. The need to evaluate this benefit-to-risk equation has given rise to new biomedical research in clinical trial design, developmental pharmacology, pharmacokinetics, pharmacodynamics, quantitative drug analysis in biologic fluids, and mathematical modeling, interfaced with clinical medicine. Unique problems of drug studies in infants and children have, up to this point, limited the development of a body of knowledge in pediatric drug therapy similar to that seen in adults.

The scope of the proposed programs of the Center for Pediatric Pharmacokinetics and Therapeutics reflects both an extension of ongoing independent research efforts, as well as new projects which would be impossible without the resources to be provided by the proposed Center. Clinical research integrated with existing basic research programs will determine the relationship between patient characteristics (clinical, biochemical, genetic, etc.) and discrete features of drug disposition in children; basic research efforts will be aimed at characterizing the maturation of drug disposition processes. A coordinated, but diverse, clinical research program will be carried out to characterize the factors determine drug absorption, distribution, metabolism, and elimination, and the relationship of drug concentration to drug effects in children. The relation of these processes to measurable patient characteristics will be used to develop pharmacostatistical models for determining the best pediatric drug-dosing strategies. Once this is accomplished for individual drug classes, an assessment of new dosing strategies will be conducted to evaluate their accuracy for achieving target serum drug concentrations, their ability to increase the likelihood of therapeutic efficacy and/or reduce toxicity, and finally, their impact on the cost-benefit of drug therapy in children. Basic research will be conducted to support clinical research findings (i.e., determine the rate at which processes mature and to identify biological factors that influence the rate and extent of maturation).

Several related activities must occur to insure accomplishment of the Center's goals and ultimately lead to national prominence in pediatric therapeutics: (1) coordination of research programs of existing faculty and clinical facilities; (2) development of additional laboratory facilities with state-of-the-art analytical and computer equipment; (3) addition of new faculty with established expertise and research programs; (4) development of new programs for post-doctoral and graduate study; (5) recruitment of highly motivated and qualified students and postdoctoral trainees, and (6) dissemination of information to the public, industry and government.

The impact that research programs in the area of pediatric pharmacokinetics and therapeutics will have upon academic programs is substantial. Coursework in pharmacology and in therapeutics offered by the Colleges of Medicine, Pharmacy, and Nursing will obviously benefit from new faculty attracted to UT, Memphis by the Center and from the new knowledge generated as a result of the Center's research program. In addition to benefits to didactic curricular offerings, new clinical rotations in pediatric therapeutics

will be offered which will allow for direct application of information gained through Center research. These rotations will be available for medical and pharmacy students from UT, Memphis and other universities in Tennessee. An extensive continuing education program for pediatricians, clinical pharmacists, dentists, nurses and allied health professionals in Tennessee will be developed and implemented as fundamental programs of the Center. Finally, through postdoctoral training, further education of clinicians in the area of pediatric therapeutics will be offered.

The benefits to Tennessee will come from several sources, including prominence achieved by the Center, the improved quality of health care education resulting from the outstanding new faculty attracted to Tennessee by the Center, and the increased quality of health care realized by children of Tennessee and the nation as a result of the Center's research and educational programs.

This Center will bring together resources and expertise from UT, Memphis, LeBonheur Children's Medical Center (LBCMC), St. Jude Children's Research Hospital (SJRCJ), the Regional Newborn Center (RNC), and the Child Development Center (CDC); thereby capitalizing on the wealth of existing pediatric programs in Memphis. There are no existing facilities in Tennessee or the United States which have the resources, expertise, and mission of the proposed Center.

<u>FY 86-87 State Funds Requested</u>	<u>FY 86-87 Institutional Match</u>	<u>FY 86-87 TOTAL</u>
\$250,000	130,000	380,000

Virology-Tumor Biology Programmatic Extension
to the
UT, Memphis Molecular Resource Center

Cancer is a disease that carries contemporary connotations similar to those associated with bubonic plague as it swept through Europe in the Middle Ages. This dread disease has received top priority in the biomedical research community for the past two decades. Due to development of recombinant DNA and hybridoma technologies, today we are beginning to close in on the molecular basis for cancer. The past several years have seen the establishment of an increasingly strong correlation between the clinical syndrome and chemical or viral alteration of genetic material within the cancerous cells. The clinical breadth and importance of cancer and other virus-mediated diseases and their close relation to the control of mammalian cell development, differentiation and division cannot be over-estimated. They will dominate the research agenda of every first-rate university, and form the cutting-edge of biomedical research for many years to come.

The recent establishment of the Molecular Resource Center (MRC) places UT, Memphis in an especially favorable position to achieve excellence in cancer-related research. The multi-disciplinary facilities of the MRC are precisely those required to mount a serious research effort in animal virology and tumor biology. In short, we have all of the necessary analytical tools. What is missing is a critical mass of high-quality investigators committed to research projects in these important fields of study. The present application proposes to interface the powerful instruments of the MRC with creative investigators who will use them to gain new insights into the molecular basis of viral development and its role in human disease. This objective will be met through establishment of an animal virology and tumor biology program within the MRC and the Department of Microbiology and Immunology. This program, which will be housed in newly renovated space, involves recruitment of five to seven faculty, over a three-year period, in these front-line research areas. (Initial year funding for a senior faculty member and a postdoctoral fellow is recommended). These individuals will augment expertise that is currently available within the Department of Microbiology and Immunology and elsewhere on the campus, and they will have working contact with UT, Memphis medical students, clinicians, and the statewide and regional research communities. Expansion of the Molecular Resource Center will significantly complement present efforts by the University to upgrade its basic science departments. Recruitment of nationally and internationally recognized virologists and tumor cell biologists will enhance the intellectual environment of the medical campus and that of St. Jude Children's Research Hospital at a time when it is critically needed. It will, thereby, contribute enormously to the competitiveness of Memphis researchers for the acquisition of Federal grants. Together the MRC and the virology-tumor biology program will generate high potential for national impact.

	FY 86-87 State Funds <u>Requested</u>	FY 86-87 Institutional <u>Match</u>	FY 86-87 <u>TOTAL</u>
Priority 1	69,332	\$34,666	\$103,998
Priority 2	46,667	\$23,334	\$70,000

Textile Materials & Electronic Materials Programmatic Extension
UTK Center for Materials Processing

Materials processing is central to a major portion of American industry. From the conversion of raw materials to the advanced fabrication of existing materials, much of existing industrial operations encompass materials processing. Thus, any advance or refinement in materials processing feeds directly into the improvement of productivity in existing industries and the development of new industry.

Research in materials processing has been lacking in American universities, and this denies American industry an important source of new ideas, profitable innovation, and trained personnel. Meanwhile, other countries increasingly focus on materials processing as one area in which any advance is likely to spread new profit opportunities throughout that country's industries.

The Center for Materials Processing was created to deal with the above-mentioned challenges and opportunities. The Center currently combines UTK, ORNL and member companies' technical staffs to solve important materials processing problems. It has emphases on:

- (1) developing basic understanding of the control of a material's properties through the control of its composition, molecular structure, and micro-structure;
- (2) measuring processing variables; and
- (3) controlling those variables to ensure proper processing.

The Center conducts basic research and teaching in materials processing, carries out research to improve existing processing technologies, and emphasizes transfer of the results to the member companies.

It is proposed that the Center for Materials Processing be augmented in two specific ways:

- (1) inclusion of a Textile Materials Research Component, and
- (2) inclusion of a component for development of materials specifically for electronic devices.

The expansion in research on materials for electronic devices is needed in order to address a major area of materials processing, and the College of Engineering has already committed to developing this area by hiring an individual with this expertise to fill the Chair of Excellence in Materials Science and Engineering. This individual will be able to work cooperatively with the faculty in physics, chemistry, and engineering to develop this major materials processing activity. The broader objectives for expansion in this area are in keeping with the overall objectives of the Center.

Expansion of the Center for Materials Processing to include Textiles Materials Research will broaden the capabilities of the Center to cooperate with textile-related industries in product development and application. The expertise of Textile Science faculty in non-woven fabric production and end-use application, coupled with that of the faculty in Polymer Engineering, have complemented interdisciplinary research contributing to melt-blown product development. Research will focus on innovative textile materials development from an interdisciplinary perspective:

- (1) To further develop and strengthen professional ties with textile industries -- rapidly and aggressively -- to gain financial support and high visibility;
- (2) To increase the interaction of faculty and students with industry and government research scientists, thus increasing opportunities for UTK faculty and students;
- (3) To serve as a catalyst for the development and marketing of new concepts in textile materials for high technology industry growth, particularly in Tennessee; and
- (4) To build upon the interdisciplinary research efforts in textile materials with functional design, textile economics, textile science.

<u>FY 86-87 State Funds Requested</u>	<u>FY 86-87 Institutional Match</u>	<u>FY 86-87 TOTAL</u>
\$171,320	\$200,000	\$371,320

Programmatic Extension
UT College of Veterinary Medicine

Progress in the first year of the study of livestock diseases and human health justifies the recommended extension of the Center to include two new complementary areas and to enhance and expand three on-going projects. All five areas of extension are consistent with the initial goals of the Center: to expand capabilities for the study of diseases of practical importance to the economy and health of the state.

One new area of investigation is a study of toxoplasmosis in food-producing animals. A significant number of pregnant women and their unborn children are effected with toxoplasmosis; congenital toxoplasmosis is a severe and often fatal disease which affects at least 3,000 infants in the U.S. each year. CVM faculty can import biomedical technology to be used to develop monoclonal antibodies for diagnosis and investigation.

The establishment of a serology laboratory will improve methods for the detection and investigation of animal disease problems. The principal purpose of this laboratory would be to diagnose potomac horse fever, a devastating disease which can cause up to a 30 percent mortality. Since there is no vaccine available, early detection and diagnosis is essential to prevent the serious manifestations of the disease from affecting the \$472 million per year horse industry in Tennessee.

Many of the animal models for human diseases can be utilized to initiate fundamental genetic manipulation techniques, which could result in permanent alleviation or correction of like diseases in humans. Animal model studies in natural disease processes must proceed similar studies in humans, because the overall effectiveness of inserting new genetic material into a resident cell is strictly speculative. Presently, three of these animal models are maintained nowhere in the world except at The University of Tennessee.

The expansion of capabilities now underway in the respiratory complex of cattle will continue to put CVM in a competitive position for national grants. Immunological, microbiological, and pathological approaches to this important disease of Tennessee livestock are being directed toward the development of a commercially-viable vaccine.

The techniques of embryo transplantaion are now almost routine; however, the potential of the embryo transplant approach is dependent upon the manipulation of the fertilized ova prior to transplanting. Continued growth of the CVM Reproductive Biology and Animal Breeding program will be directed toward microsurgical approaches to splitting of embryos, gene transfer and insertion, and chimeric production.

<u>FY 86-87 State Funds Requested</u>	<u>FY 86-87 Institutional Match</u>	<u>FY 86-87 TOTAL</u>
\$250,000	\$125,000	\$375,000

Programmatic Extension
UTSI Center for Laser Applications

The University of Tennessee Space Institute (UTSI) Center for Laser Applications (CLA), one of the first group of state-funded Centers of Excellence initiated in 1984, has already made significant progress toward its goal of becoming an outstanding organization devoted to education and research in laser applications. However, the needs and opportunities in the applications of laser-solid interactions, such as laser-based materials processing, are far greater than was anticipated in the original proposal. During the past eighteen months, it has become increasingly clear that the number of possible applications of laser-solid interactions to manufacturing activities is so extensive that the formation of a laboratory within the Center will be of great benefit to Tennessee and regional industries. Specifically, it is proposed to establish a laboratory and group that is devoted solely to laser-solid interactions, with a particular emphasis in the area of laser-based materials processing. Formal collaboration with the UTK Center of Excellence in Materials Processing and the TTU Center for Manufacturing Research and Technology Utilization to provide the necessary competency in essential areas of expertise will prevent duplication of effort and will promote resource-sharing.

The unusual optical properties of lasers have earned them a secure place in modern manufacturing. The laser has an unprecedented capability to control the application of energy to small areas of a workpiece, and this has led to a wide variety of applications in the areas of cutting, drilling and welding of metals and non-metallic materials. These applications range from the cutting of fabric for clothing and the drilling of jewelled bearings for watches to the welding of large transcontinental pipelines and the heat treatment of machine parts. One of the most widespread and promising applications has been the use of high-power pulsed and continuous lasers for drilling, welding, and surface treatment of metals. Further, the recent advent of difficult-to-machine, high-strength, composite materials utilizing fiberglass, carbon and kevlar fibers, present even greater opportunities for application of the unique properties of laser machining.

The advantages of laser-based manufacturing processes over traditional processes are often profound. The laser process usually leads to a higher quality product, and is sometimes applicable to workpiece geometries and materials that cannot be processed with traditional methods. In addition, the highly automated laser processes are very cost-effective.

The equipment required to conduct significant research and development in these areas is expensive, and several different highly-specialized technical disciplines must be combined to apply this sophisticated technology. Funding is recommended to provide a modern laboratory where, in cooperation with area industries, research in laser-solid interactions and laser-based materials processing can proceed from the basic research all the way to development of manufacturing processes in cooperation with industry. In addition, personnel of the new laboratory will have an important role in the education of industrial personnel in the area of laser material processing.

The state and institutional funding of Centers of Excellence has already established a research capability in several distinct research areas. This capability will be combined in the new laboratory to conduct research projects leading to laser manufacturing processes which can be rapidly integrated into commercial manufacturing operations. Beyond the

use of the laboratory facilities and its personnel to develop specific commercial applications, advanced basic research will be conducted to further the state-of-the-art in laser material processing. The unique capabilities of the centers will be utilized to conduct multi-disciplinary research projects in the areas of:

- (1) Laser welding of metals.
- (2) Laser cutting and drilling of metallic, nonmetallic and composite materials.
- (3) Laser heat treatment of metallic surfaces.
- (4) Laser deposition of surface coatings.
- (5) Laser refining of high-purity metals.
- (6) Studies of fiber optics and light pipes for high-energy laser beams.
- (7) Automated manipulation and control of the workpiece and/or the high-energy laser beam.
- (8) Development of time-resolved measurement and three-dimensional imaging techniques for real-time, in situ monitoring and analysis of various steps in a laser manufacturing process.

	FY 86-87 State Funds <u>Requested</u>	FY 86-87 Institutional <u>Match</u>	FY 86-87 <u>TOTAL</u>
Priority 1	\$352,600	\$176,300	\$528,900
Priority 2	\$147,400	\$73,700	\$221,100

Programmatic Extension

UT at Chattanooga Center of Excellence for Computer Applications

The Center of Excellence for Computer Applications (CECA) was established on July 1, 1984. CECA is concerned with a broad range of computer applications. Those originally identified include modeling of large scale power distribution systems, computer-aided design and manufacturing, engineering modeling, graphics, data base analysis, software engineering, statistical analysis, simulations, advanced data processing, operations research, management science, spread sheet analysis, and educational technology systems. An extension of CECA activities into three areas, not explicitly identified in the original proposal, is recommended: Computer Curricular Integration; Rehabilitation Interfaces Engineering; Knowledge Engineering Applications.

Computer Curricular Integration (CCI)

The goals of Computer Curricular Integration are to increase faculty computer literacy and to integrate the computer more fully into undergraduate curricular offerings. This will be in the spirit of making UTC a "computer lab" school worthy of regional and national recognition. To reach the goals of faculty computer literacy and computer curricular integration, it is proposed that CECA actively pursue objectives in Instructional Technology. CCI would involve the training of students and faculty in instructional design and analysis and the providing of services in new technology areas. A new category of CECA-related faculty will be formed. Called CECA Fellows, these faculty will be sponsored routinely to undertake curriculum development and occasional research aimed at enhancing UTC's curriculum with computer experiences where deemed attractive and appropriate by UTC's academic departments and their associated faculty.

Rehabilitation Interfaces Engineering (RIE)

CECA desires to undertake a Rehabilitation Interfaces Engineering (RIE) program that would assist major rehabilitation efforts in the Chattanooga area and involve the medical engineering and prosthesis manufacturers located here. This CECA and School of Engineering activity extends work already undertaken by several individuals in Engineering and would be both welcomed and support by local agencies and national organizations.

RIE is a natural extension of CECA support for research in computer applications. In RIE, both computer science and engineering methodology may be applied to solving problems relevant to the local community and to society-at-large. This research would encompass both the engineering aspects of hardware design and interfacing to sensors and actuators, and the computer science and engineering aspects of the control and information handling required of the computer. The primary focus would be on the construction and computer programming of interfaces, as well as instrumentation for collection and processing of physiological and other data. A particular emphasis would be placed on the use of expert systems and knowledge-based systems derived from research in artificial intelligence. These systems promise to be adaptable to a wide range of environments and uses an important consideration in the operation and control of both rehabilitation and prosthetic devices.

Knowledge Engineering (KE)

The area of artificial intelligence, particularly Knowledge Engineering (KE), has experienced explosive growth in recent years. Techniques from KE are now being applied to problems ranging from solving mathematical and chemical problems, to advising physicians on diagnoses for their patients. The areas of Expert Systems have also expanded greatly. Expert Systems are being developed to provide intelligent assistance for people in areas like tax audit advice, portfolio management, electric power systems operations, student career guidance, and financial aid advisement systems. Additional commercial applications of KE are announced weekly. KE techniques are also applied to develop intelligent user interfaces which would assume much of the burden of communications with computers and computer software, and to develop sophisticated tutorial programs (far beyond the traditional CAI software) which adapt themselves to the subject and user while they are teaching. CECA wishes to establish a Knowledge Engineering Applications (KEA) Group within CECA and in collaboration with the Computer Science Department. This area includes investigation and development of a wide variety of Expert-Based systems and Knowledge-Based systems. With applications from accounting to education and with curricular focus, this KEA Group would also coordinate with the RIE Group on applications in that area. The symbiotic relationships that exist here offer the possibilities of the total being more than the sum of its parts. KEA would enhance RIE in making the computer interfaces capable of sophisticated actions, while the RIE applications would give the KEA a context unrivaled for relevancy and need.

<u>FY 86-87 State Funds Requested</u>	<u>FY 86-87 Institutional Match</u>	<u>FY 86-87 TOTAL</u>
\$250,000	\$25,000	\$375,000



The University of Tennessee

PRIMARY CAMPUSES:
Knoxville
Memphis
Martin
Chattanooga

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Office of the Vice President
for Academic Affairs and Research
731 Andy Holt Tower
Knoxville, TN 37996-0170
Telephone 615/974-3211

13 December 1985

MEMORANDUM

TO: Members of the Executive Committee,
UT Board of Trustees

FROM: John W. Prados *John W. Prados*
Vice President for Academic Affairs & Research

SUBJECT: FY 86-87 Center of Excellence Recommendations

In accordance with agreements reached last spring by UT, SBR, and THEC staffs, we are attaching summary materials for FY 86-87 Center of Excellence proposals. Those agreements resulted in a 50-50 division of monies likely to be appropriated (excluding increases of approximately \$800,000 given to existing Centers which demonstrated significant progress-to-date); the final pool of dollars allocated to The University of Tennessee is \$2,085,919. Each governing board is charged with making recommendations to be acted upon by the THEC on 23 January 1986. The boards' recommendations are separate and non-competitive, and prioritizing (as in years past) is not necessary. A minimum allocation of \$250,000 per institution for proposals which meet the guidelines is also specified by the agreements.

Except for the UT, Memphis proposal for a Center of Pediatric Pharmacokinetics and Therapeutics, all proposals are for programmatic extensions of existing Centers of Excellence. Priority 2 recommendations are for additional support which will be sought if additional funds become available. The attached sheets summarize the recommendations in two categories. Priority 1 recommendations, totalling \$2,085,919, are for support of activities which are essential to meeting the goals of each proposal; Priority 2 recommendations are for additional support which will be sought if more funds become available.

The funding recommendations are the result of nearly six months of interactive communication between this office and the respective budget entities which were eligible to submit proposals. These recommendations have been scaled down from pre-proposals and estimated budgets, submitted in July 1985, not long after proposal guidelines were distributed:

UT at Martin	\$ 265,667
UT, Memphis	\$1,429,225
UT, Knoxville	\$2,136,196
UT at Chattanooga	\$ 250,000
UT Space Institute	\$ 500,000
UT College of Veterinary Medicine	\$ 300,000
	<u>\$4,881,088</u>

Discussions with the President's Staff and with campus chief academic officers took place during the summer. Early this fall draft proposals were reviewed by University-wide staff, and formative evaluations of each draft were returned to the respective budget entities in late October. Based on those assessments, the proposers revised the drafts and resubmitted final proposals. The attached summaries and our recommendations are based on those final proposals. Each proposal conforms to the guidelines agreed to by UT, SBR, and THEC; moreover, each meets the high standards of quality and of likelihood for achieving regional/national recognition to which all previous Centers of Excellence were held.

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Attachments

xc: Remaining Members of the UT Board of Trustees
Dr. Edward J. Boling
President's Staff
Vice Chancellors Addington & Freeman
Provosts Wheeler & Packard
Dean Ken Harwell
Dean Hiram Kitchen
Dr. Bert C. Bach
Dr. A. Robert Thoeny

UT PRIORITY I RECOMMENDATIONS—FY 86-87
CENTERS OF EXCELLENCE

Recommended Funding	Description of Center
\$250,000	UT College of Veterinary Medicine Center of Excellence in Livestock Diseases and Human Health Programmatic Extension: serology laboratory toxoplasmosis research respiratory disease reproductive biology animal models of human diseases/biotechnology
\$250,000	UT at Martin Center of Excellence in Science and Mathematics Education Programmatic Extension: elementary science education
\$250,000	UT at Chattanooga Center of Excellence in Computer Applications Programmatic Extension: curricular computer integration rehabilitation engineering interfaces knowledge engineering applications
\$250,000	UT, Memphis Center of Excellence in Pediatrics Pharmacokinetics and Therapeutics (new Center)
\$ 75,332	UT, Memphis Molecular Resource Center Programmatic Extension: animal virology tumor biology
\$120,000	UT, Memphis Center for Neuroscience Programmatic Extension: neurogenetics neurochemistry

\$352,600	UT Space Institute Center for Laser Applications Programmatic Extension: laser-solid interactions beam propagation
\$171,320	UT, Knoxville Center for Materials Processing Programmatic Extension: textile materials electronic materials
\$366,667	UT, Knoxville The Science Alliance Programmatic Extension: mathematics and computer science

**UT PRIORITY 2 RECOMMENDATIONS—FY 86-87
CENTERS OF EXCELLENCE**

Recommended Funding	Description of Center
\$ 46,667	UT, Memphis Molecular Resource Center Programmatic Extension: animal virology tumor biology
\$ 5,000	UT, Memphis Center for Neuroscience Programmatic Extension: neurogenetics neurochemistry
\$147,400	UT Space Institute Center for Laser Applications Programmatic Extension: laser-solid interactions laser probe technology
\$33,000	UT, Knoxville The Science Alliance Programmatic Extension: mathematics and computer science