

Minutes of the Outreach Committee

The University of Tennessee Board of Trustees

**June 21, 2007
Knoxville, Tennessee**

The Outreach Committee of the Board of Trustees of the University of Tennessee met on June 21, 2007, and was the inaugural group to meet in the new Technology Business Incubator facility located on the campus of the Institute of Agriculture. Just prior to the meeting of the Outreach Committee, a ribbon-cutting ceremony was held to officially open the building.

I. Call to Order

Mr. Bucky Wolford, Chair of the Outreach Committee, called the meeting to order at approximately 11:40 a.m., EDT. Mr. Wolford noted it was an honor to be the first group to meet in the new incubator building and said it was a grand facility and would be a great asset to the University of Tennessee.

II. Roll Call

Dr. David Millhorn called the roll and the following voting members were present:

Mr. Bucky Wolford, Chair
Mrs. Barbara Castleman
Mr. Jim Hall
Mr. Jerry Jackson
Ms. Andrea Loughry
Mr. Karl Schledwitz
Ms. Anna York

The following non-voting members were present:

Dean Dick Gourley
Mr. Paul Hart
Ms. Brittany McGruder
Dr. John Petersen
Dr. Richard Rhoda
Dr. John Schommer
Mr. Chuck Shoopman

Commissioners Seivers and Givens, Professor Kennedy, Ms. Ridgeway and Mr. Morrisey were absent from the meeting.

Dr. Millhorn declared to the Chair that a quorum was present for the meeting.

III. Approval of Minutes of the Last Meeting

Mr. Wolford asked if there were any discussions or questions in regard to the minutes of the last meeting of the committee, which took place on March 7, 2007, in Martin. Mr. Stokely noted that Dr. Jack Britt had reported nearly 20,000 jobs created as a result of economic development activities. The minutes stated 4,000 jobs had been created. The 20,000 figure would be consistent with the number on the analysis under Tab 30 in the economic development report. Mr. Schledwitz recommended this change be made and the minutes be approved with this revision. The motion was seconded and unanimously approved.

IV. Annual Report of Economic Development Activities

Chair Wolford stated the *Annual Report of Economic Development Activity* was an information item and asked Dr. David Millhorn to give the report as a requirement under the Charter of the Outreach Committee of the UT Board of Trustees.

Dr. Millhorn referred members to the written report under Tab 30 in Board materials of these activities and gave a power-point presentation to highlight aspects of the report.

Dr. Millhorn referred to President Petersen's remarks at the just prior business incubator ceremony when Dr. Petersen spoke about the changing role of the University. Looking back 15 years ago, the three major focus areas of UT's mission were education, research, and service. Today UT is focusing on these areas and is asked to do so at a much higher level. The University is now taking on the additional mantle of economic development, driving economic development not only in our region but within the State. Dr. Millhorn noted the importance of these increasing activities and how they contribute to Tennessee's well-being.

Dr. Millhorn stated the not-for-profit UT Research Foundation has several goals. One is to grow the research enterprise at UT. This is done through helping investigators secure money, assisting them in protecting discoveries, and turning those discoveries into opportunities. UTRF harvests, manages and markets UT's intellectual properties. It is the sole agent of UT for this activity. During FY 06, there were 93 invention disclosures and 30 patents, start-ups or licenses issued by UTRF.

Another strong component of economic activity within the University, Dr. Millhorn noted, is the UT Institute of Public Service, a distributed organization located in most of Tennessee's major metropolitan areas in all regions of the State. IPS helps grow the State's economy through four units within its organization: the

Center for Industrial Services, the County Technical Assistance Services, the Municipal Technical Advisory Service, and the Law Enforcement Innovation Center, perhaps the unit with the highest profile.

IPS reached out and touched a significant number of people in the State, with:

- 690 training courses delivered across the state and in many different subject areas
- 16,291 participants trained
- 5,588 projects complete in partnership with the private sector
- 133,549 training hours delivered
- 16,043 inquires answered
- 16,267 jobs created or maintained

These are self-reported data illustrating how the University, within the community through IPS, is helping create jobs and/or is keeping jobs here in Tennessee. Dr. Millhorn applauded IPS, under the leadership of Dr. Mary Jinks, for the many accomplishments of this UT organization.

Dr. Millhorn recognized the UT Institute of Agriculture as a long-standing component of economic development activities within the University. The UTIA has offices in all 95 Tennessee counties. Historically, these involvements were farm-community related; however, more recently, activities include education and nutrition and these types of activities facilitate the well-being of Tennessee's citizens.

Dr. Millhorn described one of the current projects being staged out of the UTIA--the Tennessee Biofuels Initiative (TBFi). This initiative is different from mid-west regions where farm grain is used to create ethanol. UT's initiative will use cellulosic energy crop biostock, primarily switchgrass or other high cellulosic biomass such as wood chips. The pilot plant was funded this year in the Governor's budget for \$62M, \$40M of which will be used to create a pilot plant that will produce, once it is built, approximately 5 million gallons of ethanol a year from either switchgrass, the cellulosic energy crop which has been selected for use, or from wood products. Plant construction is expected to begin this fall and is anticipated to be completed in 18 months, with ethanol being produced shortly thereafter.

The product to be produced will be trademarked as *Grassoline*. Dr. Millhorn noted *Grassoline* will help replace at least one billion gallons of transportation fuel in Tennessee each and every year. Once the pilot plant is up and going, the result will be a network of commercial plants across the State being market-driven, working with farm communities. From an economic development standpoint, farmers will make money from growing a dedicated energy crop with no food crops being displaced. *Grassoline* will be grown on marginal, dormant land which, for the most part, is underutilized. Once this product is grown, the

farmer will be paid. The farmer will be given an opportunity to own part of the processing activity. They can also be part-owners in the biorefinery. This keeps most of the money locally within the community from growing, processing and selling to distributors.

Currently, when gasoline is purchased within Tennessee, most of the money leaves the State. To be able to keep this money in Tennessee will be a boon to the economic situation of the State and will allow communities to invest in themselves—to invest in education, health care, economic development opportunities, and to overall have an increase in the quality of life.

There is great potential for creating a substantial pool of money:

- \$800 million annual increase in net farm income
- 3000 new jobs somehow related to this industry within the state.

The UTIA is involved in other activities which have a great economic impact for Tennessee. One is crop variety testing at UT experiment stations where different crops are tested to determine which provide the greatest yields. It is estimated this process will contribute \$95 million to the state's economy each year. UTIA encourages cooperative marketing arrangements for farmers to get enhanced pricing, which is estimated to create about \$2.2 million of economic savings in the State. The Nutrition Educational Program is expected to create at least \$39 million in healthcare savings.

Dr. Millhorn discussed the economic development value of UT and Battelle's management of Oak Ridge National Laboratory. Dr. Bill Fox at UT's Center for Business and Economic Research performed a study to measure the impact of UT-Battelle management on the State. The data returned showed the following:

- The annual operating budget at the Lab is \$1.1 billion annual dollars. This is money coming from outside the State into the State. The biggest money comes from the Department of Energy. There are also other federal agencies, with large contracts with the Department of Homeland Security and the Department of Defense, as well as activity with the private sector.
- This activity results in \$302 million in direct benefits: wages and salaries. This money is spent in the local area.
- Spending money in the local area with other sectors led to \$683 million in total income benefit to the region.
- Management of the Lab with Battelle, having a successful high-profile operation, enabled attracting a substantial amount of money into the region and created over 20,000 jobs.

In calculating UT's economic impact, UT-Battelle is not counted. It is important to remember UT manages UT-Battelle as part of the University and this

management will be part of UT for a very long time. This activity is increasing economic benefit in the region.

In summary, what has the University done for the state?

- Increased revenue or savings for businesses in Tennessee of over \$881 million.
- Created or maintained over 19,000 jobs (if the number of jobs created by UT-Battelle was added, this number would be even more significant).
- UT had over 5 million contacts with citizens of Tennessee, which currently has a population of 6 million people. The contact figure includes multiple contacts with the same person. Contacts could be made through UT's health-care clinics, extension service, IPS, and all the agencies the University sponsors throughout the State.

Dr. Millhorn reported that UT-Battelle has a highly significant impact on the gross state product of Tennessee of over \$800 million. When people are thinking about the University, they think about education, research and the services provided; however, it is important to remember to also think about the economic impact the University has on the State, which is large and growing.

Chair Wolford returned to the subject of UTRF and asked Dr. Millhorn about the selection criteria for new companies that would be part of this enterprise. Dr. Millhorn stated this topic would be addressed by Dr. Fred Tompkins in his report to follow.

Dr. Petersen suggested that Dr. Millhorn introduce to the Committee one of UT's biofuels leaders, Dr. Kelly Tiller. Dr. Tiller is assistant professor at the Institute of Agriculture and Director of Bioenergy External Relations. Dr. Millhorn noted that Dr. Tiller is among the extremely competent leaders of the Tennessee Biofuels Initiative and that she has been most valuable in assisting Vice President Joe DiPietro in preparing the TBFI plan and in developing the model to be taken to Governor Bredesen, which the Governor has now funded. Dr. Tiller has been able to produce models showing anticipated crop production, land requirement, and similar criteria. She has testified on numerous occasions before the legislature, U.S. Congress and other government agencies.

Dr. Millhorn concluded that a substantial amount of time has been spent in looking at biofuels models in other states to better understand the role Tennessee and the University is playing in making the TBFI happen. It is a farmer-based initiative, using dedicated energy crops and a strategy that will lead in the commercialization before any others in the State. It is important to be first. Being first means developing new intellectual properties which can be protected, owned and licensed out to other states. The University is proud of its team, housed at UTIA. Dr. Millhorn stated that on any occasion he can acknowledge

the important role the UTIA is playing with the TBF1, he is most pleased to do so. Members were invited to discuss this initiative with Drs. Tiller and DiPietro following the meeting.

V. Review of FY 2008 UT Research Foundation Operating Budget

Dr. Millhorn asked Dr. Fred Tompkins, President of the UT Research Foundation, to make the Foundation's report.

Dr. Tompkins noted the mission of the UTRF fell within four categories. The UTRF:

- is committed to growing the research enterprise;
- harvests, manages and markets intellectual property;
- supports entrepreneurial ventures (of faculty, staff, students and affiliates of the University; sometimes there are entities with valuable relationships with UT); and
- contributes to Tennessee's well-being through economic development.

The UTRF grows the UT research enterprise; in particular, the UTRF works in the commercial sector with industries as opposed to government-funding agencies, although these agencies are not eliminated from UTRF relationships. A unique quality of UTRF licensing activities is creating a continuing research stream to the license stage. If a new intellectual activity—an agency, organization or industry—comes to UTRF to sponsor research, UTRF wants to do that in the eye of creating new intellectual property in which they will have an ownership interest. Contracts can be made with the UTIA, UT Knoxville, the Health Science Center and other institutions in the UT system where there is interest. When out-licensing a given piece of intellectual property, UTRF works diligently in these negotiations to make sure there is continuing research funding coming to the person or persons who created the invention. The faculty member, as the originating source, is in the best position to help with the continued development and further innovation of a given concept.

Dr. Tompkins noted that the number of disclosures had declined from 93 in 2006 to 65 in 2007. To put these figures in context, however, he explained the number of disclosures in 2005 was 67. The larger number of disclosures in 2006 featured 11 different patentable factors for one particular disclosure.

Mr. Schledwitz asked how much of the disclosure totals was coming from UTHSC and Dr. Tompkins responded that one-third to 40 percent is UTHSC generated. He added that the three largest generators are the Health Science Center, the Knoxville campus, and the UTIA.

Dr. Tompkins stated that fewer patents were filled in 2007 (56) than in 2006 (78) and 2005 (72). This did not mean patents were filed for 56 of the 65 disclosures.

It meant that of the 56 different patent activities, some of which were continuations, some were provisional, and some were conversions. This past year there were 15 patents issued and UTRF licensed or optioned technologies on 12 items during the last year.

Dr. Tompkins provided other statistics of UTRF activity:

- 604 active invention disclosure files
- 365 active patents (299 within the U.S.)
- 129 active licenses (31 of which are generating income for the University)
- The UTRF has grown the licensing revenue growth by \$0.4 million (from \$1.06M in FY 05 to \$1.45M in FY 07 year to date).

Dr. Tompkins noted there are many promising technology projects for future development.

Mr. Stokely asked for clarification of some of the statistics. For background, Dr. Tompkins noted that the UTRF is a young four-year enterprise. It has not yet celebrated a major “home run” in a commercialized technology, and it inherited debt from the former UT Research Corporation. New technologies, such as those being developed by MycoGenomix, the start-up company highlighted at the meeting, are being licensed with potential for generating revenue for themselves and the UTRF. The budget provided by the University for the UTRF is about \$1.7 million, which covers salaries and fundamental operating expenses. Approximately \$1.2 million is spent on patents and legal expenses. Monies generated with this investment are put back in the UTRF and it is operating with an approximate \$3+ million budget. Research awards and other kinds of funds are not reflected in the statistics. Numbers given are revenues strictly from the intellectual properties.

Mr. Stokely asked how evaluations were made to decide which patents will be funded by UTRF. Dr. Tompkins stated that the UTRF staff had spent much of the last four years in developing a sound patent portfolio. The UTRF staff is devoted to creating the right strategy, to cutting costs whenever possible, and to paying attention to the newest inventions and intellectual properties being disclosed to them. Concerning expenses for licensing ventures which don't produce revenues, Dr. Tompkins noted some licensees are struggling and guidance for the patents by UTRF is needed. There are also obligatory licenses, such as government and agencies which require licenses, and these must be maintained.

Dr. Tompkins reported that ten companies had been created in the last three years: one in 2005, five in 2006, and four in 2007. These companies have been created based upon UT intellectual policies. They are useful companies and most are in the development stage of start-up activities.

Mr. Wharton inquired if these companies had business plans and Dr. Tompkins responded they did. A management team determines if the companies are qualified for start-up and helps with the entire process. UTRF has engaged organizations such as Technology 2020's Center for Entrepreneurial Growth and the Memphis Bioworks Foundation to help support the start-up companies. UT, when bidding for the contract to manage ORNL, asked Tech 2020 to create the Center for Entrepreneurial Growth to support start-up companies coming from ORNL. That was part of the UT-ORNL proposal to DOE and this process has worked well. Once UTRF began its mission, it has engaged the Center to: 1) provide business expertise to supplement the UTRF management team; 2) to help the start-up companies to put together a solid business plan and execution strategy, with guidance to find the right capital resources; and 3) to provide opportunities for networking, research programming and training of the entrepreneurs.

Dr. Tompkins noted that the new Technology Business Incubator facility, a 15,000 square foot building with the capacity to hold sixteen start-up companies, will be instrumental in the mission of the UTRF to make sure the companies are successful in their endeavors and in their partnerships with the University of Tennessee.

Dr. Tompkins expressed appreciation for the hard work of individuals and organizations that had helped to make the Technology Business Incubator facility a reality. Partners in this \$2.6 million project are the U.S. Economic Development Administration, Tennessee Department of Economic and Community Development, Knox County Government, Tennessee Valley Authority, Knoxville Utilities Board, and the University of Tennessee, Knoxville.

Mr. Schledwitz stated that a constant message he hears from UTHSC faculty and staff is that the Medical School is not contributing the revenues that other medical schools are and reasons cited are lower priority in staff and resource commitments given by UTRF to UTHSC. He does not know the full validity of such statements; however, he would like to know how other medical schools handle such issues and what their focus is to have a more successful program. He suggested Dr. Tompkins explore these concerns and report back to the committee with these findings. Dr. Tompkins noted good efforts were being made and people were working hard to build a strong UTRF management team in Memphis. A new staff attorney, with a solid research and intellectual properties background, will be added July 1 to the Memphis team. Dr. Tompkins will look into these issues and will keep members informed of his findings.

Chair Wolford asked Mr. Butch Peccolo to report on the UTRF operating budget for FY 2008. Reference was made to fiscal information provided under Tab 30 of the Board materials. Mr. Peccolo noted the two funding sources for 2008 operations are University support and licensing/royalty payments, \$2,074,980 and \$1,750,000 respectively. Most of the UTRF operating costs (salaries, travel

and overhead expenses) are provided by the University. There was an approximate \$600,000 increase for fiscal 2008 budget over 2007, due primarily to the 3 percent salary increase to be considered in the full Board meeting, the new relationship with Memphis Bioworks Foundation which included \$300,000 in research development and marketing costs, and with Tech 2020 for management of the new incubator facility (\$25,000).

Mr. Peccolo noted that the items in the budget were considered by the Finance & Administration Committee on June 5, 2007, and by the UTRF at its board meeting June 19.

Mr. Schledwitz asked Mr. Peccolo what the total compensation is for Tech 2020. Mr. Peccolo noted that \$120,000 is being paid in base support and \$25,000 additional for help with the business incubator facility in 2008. Clarification was made concerning the footnote for contract and special services on the proposed UTRF budget.

Ms. Loughry asked for an update regarding the research park in Tullahoma. Dr. Tompkins noted that four or five companies with long-time UTSI research relationships are operating in the UTRF facilities. A new UTSI staff member is leading efforts to increase and revitalize entrepreneurial activity. Drs. Tompkins and John Hopkins are giving oversight to this program.

Mr. Wolford inquired about royalty payments, the procedure for making payments, and the related legal costs. Dr. Tompkins noted that UTRF assumes responsibility for licensing costs, but UTRF recovers this expense before any payment is made to the licensee. Dr. Tompkins concluded that the mission of UTRF is to support the University's research enterprise and to energize technology-based economic development. The relationship with Oak Ridge National Laboratory enhances the UTRF mission. The UTRF focus is on start-up ventures formed and licensed with intellectual properties owned by the University of Tennessee. It is a phased program for new companies, with a graduation policy so that companies mature out of the program and graduate according to UTRF policy.

Dr. Tompkins introduced Dr. Harry Richards, CEO of MycoGenomix, formed in 2006 and one of the business incubator's successful start-up enterprises. Dr. Richards described his company's relationship with UTRF and the nature of his company, which is to commercialize the next generation of natural insect pesticides and insect resistance traits for agricultural biotechnology. Dr. Richards noted that the company is based on the research and subsequent patent of Dr. Neal Stewart, co-founder with Dr. Richards of MycoGenomix and the UT Racheff Chair of Excellence holder and Professor of Plant Molecular Genetics. Dr. Richards introduced Mr. Don Loveday, MycoGenomix Director of Business Development. Dr. Richards was highly complimentary of his company's relationship with UTRF. He thanked Dr. Tompkins, UTRF staff, Dr.

Geoff Robson and other Tech 2020 staff members for their work with MycoGenomix and expressed his pleasure with the new business incubator facility.

VI. Other Business

Chair Wolford asked if there was any other business to be discussed. Mr. Jerry Jackson initiated discussion regarding emerging economic development opportunities in Northwest Tennessee based on a Congressional mandate of connecting I-69 with Canada and Mexico, involving Highway 51 in the middle of West Tennessee. Additionally, a major port facility is being built in Lake County. Mr. Jackson wants to take advantage of the potential opportunities and discussed the direction to be taken for doing so. Dr. Millhorn suggested that Mr. Jackson put him in contact with the pertinent parties involved with this activity. Dr. Millhorn briefly discussed the Nine Counties model in East Tennessee of involving surrounding counties and leaders in such endeavors. Dr. Millhorn noted he would be pleased to help in any way possible with these efforts and opportunities.

V. Adjournment

There being no other business, Chair Wolford adjourned the meeting at 12:40 p.m.

Respectfully submitted,

David E. Millhorn, Ph.D.
Executive Vice President