



# **RESEARCH ASSESSMENT PROGRAM - 2006**

## **Final Report**

March 2007

Texas Higher Education Coordinating Board  
Academic Affairs and Research Division  
P. O. Box 12788  
Austin, Texas 78711-2788

## Texas Higher Education Coordinating Board

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### Coordinating Board Mission

The Texas Higher Education Coordinating Board's mission is to work with the Legislature, Governor, governing boards, higher education institutions, and other entities to help Texas meet the goals of the state's higher education plan, *Closing the Gaps by 2015*, and thereby provide the people of Texas the widest access to higher education of the highest quality in the most efficient manner.

### Coordinating Board Philosophy

The Texas Higher Education Coordinating Board will promote access to quality higher education across the state with the conviction that access without quality is mediocrity and that quality without access is unacceptable. The Board will be open, ethical, responsive, and committed to public service. The Board will approach its work with a sense of purpose and responsibility to the people of Texas and is committed to the best use of public monies. The Coordinating Board will engage in actions that add value to Texas and to higher education. The agency will avoid efforts that do not add value or that are duplicated by other entities.

<p>The Texas Higher Education Coordinating Board does not discriminate on the basis of race, color, national origin, gender, religion, age or disability in employment or the provision of services.</p>
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## Executive Summary

The Research Assessment Program, established in Chapter 144 of the Texas Education Code, mandates a review by the Coordinating Board of separately budgeted research programs at Texas institutions of higher education. The Legislative Budget Board selects programs for review, and the Coordinating Board reports its findings to that body. Chapter 144 requires the Board to recommend reauthorization, revision, or discontinuation of the programs selected for review.

In the 2006 review, 10 programs were evaluated. This list includes the program name, institution, and annual appropriation for the FY06-07 biennium:

Border Health Research, The University of Texas at El Paso .....	\$289,118
Center for Applied Biology, The University of Texas at-Dallas .....	\$546,875
Chihuahuan Desert Research, Sul Ross State University .....	\$25,000
Cooperative Agricultural Research Center, Prairie View A&M University.....	\$751,693
Heart Disease and Stroke Research, The University of Texas Health Science Center at Houston .....	\$5,082,750
Human Nutrition and Development Program, Texas Woman's University.....	\$40,000
Institute for Nobel/National Academy Biomedical Research, The University of Texas Southwestern Medical Center-Dallas .....	\$8,246,403
Institute for Women's Health, Texas Woman's University .....	\$167,005
Research Support, The University of Texas M.D. Anderson Cancer Center .....	\$1,662,500
Wildlife Research Institute, Texas A&M University-Kingsville.....	\$279,000

Each of these programs completed a self-study in a format prescribed by the Coordinating Board staff. All of the programs were next reviewed by an external consulting team of experts. The final evaluation of all the programs was reviewed by the Coordinating Board's Advisory Committee on Research Programs.

All 10 programs are recommended for reauthorization. The programs appear to be operating well with dedicated management and staff and represent a good investment for Texas. Specific program improvements recommended by the expert review teams who visited the programs are included in the assessments.



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## Background

The Texas Select Committee on Higher Education recommended in 1987 that “a greater portion of state-appropriated research funds be distributed through peer review rather than line-item appropriation.” The 70th Texas Legislature translated this recommendation into action by creating three new peer-review research programs and by initiating a Research Assessment Program to evaluate programs that are separately funded through special item appropriations.

The statutory language of the Research Assessment Program directs the Texas Higher Education Coordinating Board to evaluate programs selected by the Legislative Budget Board for review (see Appendix A). For the 2004-2005 biennium, the Legislative Budget Board selected ten programs for review:

Border Health Research, The University of Texas at El Paso  
Center for Applied Biology, The University of Texas at-Dallas  
Chihuahuan Desert Research Project, Sul Ross State University  
Cooperative Agriculture Research Center, Prairie View A&M University  
Heart Disease and Stroke Research, The University of Texas . Health Science Center at Houston  
Human Nutrition Research Program, Texas Woman’s University  
Institute for Nobel/National-Academy Biomedical Research, The University of Texas Southwestern Medical Center-Dallas  
Institute for Women’s Health, Texas Woman’s University  
Research Support, The University of Texas M.D. Anderson Cancer Center  
Wildlife Research Institute, Texas A&M University-Kingsville

Each of these programs was asked to complete a self-study in a format, as shown in Appendix B, prescribed by the Coordinating Board. The executive summaries from the self-studies submitted by the programs are included in Appendix C. Copies of the self-studies completed by each program are available from the Coordinating Board’s Division of Finance, Campus Planning, and Research.

After reviewing the self-study documents, all programs were selected for additional review. The external review teams reviewed the self-study documents, heard presentations by institutional representatives for each program, and advised the Coordinating Board staff of each program’s performance. The external review teams are listed in Appendix D. The assessment form used by the review teams to rate each program is included in Appendix E.

Coordinating Board staff finalized written evaluations that were initially prepared for each program by the review team. The evaluations were then forwarded to program administrators at the respective institutions for review and comment. These evaluations address each of the four criteria included in the Research Assessment Program's enabling legislation:

- 1) Intrinsic Merit;
- 2) Research Performance;
- 3) Development of Knowledge and Instruction in Advanced and Emerging Technologies; and
- 4) Economic Development.

The evaluations were reviewed by the Coordinating Board's Advisory Committee on Research Programs (see Appendix F) before being submitted to the Coordinating Board.

## **Program Assessments**

Ratings used throughout the report follow:

- Very Good: One of the best programs in the nation.
- Good: A quality program that may be of value to the state but not yet of national stature.
- Fair: A program that is making positive contributions but could be expected to do better.
- Poor: A program that has serious deficiencies.
- N/A: Not applicable.

The program assessment form is found in Appendix E.



and investment in new and existing biology/health science faculty whose research agendas fit the border health program; and seeking external funding required to support research on border health issues. The importance of border health issues, both in terms of health disparities and in terms of specific health conditions, is well documented nationally and internationally.

The Border Health Research program integrates two centers on the UTEP campus, the Border Biomedical Research Center (BBRC) that has been the centerpiece to leverage and build capacity for the conduct of biomedical research and the Hispanic Health Disparities Research Center (HHDRS) that provides a foundation for expanding public health and clinical research programs and helps coordinate health-related research in a number of departments at UTEP. The College of Health Sciences (CHS) and the School of Nursing have served as the foundation to build capacity and increase productivity in many areas of public health. Transdisciplinary colleagues in chemistry, engineering and liberal arts have joined faculty members in the BBRC and CHS in the border health research effort. BBRC facilitates and expands pathobiological research at UTEP by strengthening the research infrastructure of the institution. Through collaborative efforts with nearby institutions, BBRC is central to the pathobiology research that is addressing the El Paso/Ciudad Juarez region of the Texas/ Mexico border's bicultural population's biomedical and health issues.

The BBRC has a formal advisory committee that includes local, national, and international experts on health issues affecting the Texas/Mexico border region. The entire committee meets once a year to review the accomplishments of the BBRC and its faculty and to provide direction for future efforts. Local board members participate in additional meetings through the year.

HHDRS's primary purpose is to facilitate research related to Border health disparities. The HHDRS has administrative, research and dissemination cores that include faculty from both UTEP and the School of Public Health at The University of Texas Health Science Center at Houston. The Center provides infrastructure support for researchers, pilot funding for promising research and innovation in health disparities research, mentoring and training of researchers focused on Hispanic health disparities, and assistance with disseminating research findings through the cores and support staff. HHDRS has a national Advisory Board of experts related to Hispanic health disparities and research methodologies. The Center's Annual Summer Institute features faculty development activities supported by leading experts in Hispanic health disparities. Beyond the special item funding, HHDRS is funded by NIH, DHHS and the National Center for Minority Health and Health Disparity.

BHR has funded a large number of investigators over the years of funding, who have been able to leverage that funding to pursue additional opportunities.

BHR has clearly documented its progress and likelihood of continuing success and the review team considers it to be an excellent investment for the State of Texas. The goals and objectives of the Border Health Research funding program are being met: UTEP continues to build its health-related programs with BHR assistance; UTEP resources have been leveraged to increase capacity, breadth, and quality of border health research and education programs; faculty have been recruited to UTEP, bringing not only new federally funded grants, but the opportunity to build major competitive research programs with special focus on border health issues; and UTEP has been prompted to increase the capacity and quality of its research facilities and administrative infrastructure to support research and related educational activities including a new biosciences facility. BHR's geographic location and the resources developed to date position it well to become an exceptional, comprehensive authority on border-health and Hispanic-health disparities issues.

**Research performance**

**Rating: Very Good**

The goals of the BHR are to increase the knowledge and research base in search of applied and clinical solutions to targeted public health areas of concern that disproportionately affect Hispanics and residents in general of the U.S./Mexico border region. The BHR is uniquely established and suited to serve the needs of an area that encompasses two nations, three states and a mix of multiple diverse urban, rural and binational communities. BHR serves a corner of the continent and the world that is without comparison in its economic interdependent complexities and social and political challenges. The border region is an area confronted by both first and third world disease dynamics and full of opportunities for advanced research investment.

The leadership of the BHR has impressively taken the appropriate steps to insure greater integration by bringing the Hispanic Health Disparities Research Center and the Border Biomedical Research Center under the direction of the Vice-President for Research. This action has created a synergy of effort among numerous inter-institutional stakeholders in the region that significantly complements the overall goal of addressing the health and environmental problems that affect Hispanics and residents of this region. The BHR's substantive contributions will additionally profit the entire state by adding to the knowledge base of border health research that is applicable to other border impact areas.

The BHR has been especially successful in its scholarly output during the funding period. This output has included 23 journal publications, 21 conference proceedings and five PhD and masters theses. This is an especially noteworthy accomplishment considering that the BHR has supported less than 5.0 FTEs, to a greater degree during the second year than during the first. The BHR has uniquely adapted to the needs of the region by working on issues important and visible to the community in general such as those related to nutrition, water quality, asthma, lead in soil, herbal medicine, and vaccine preventable diseases, while also expanding the research base in critical biomedicine issues with broad-based national constituencies.

The review team encourages the BHR to expand its efforts to disseminate its work and results beyond the scientific community to influence key stakeholders that direct and manage policies and programs in local, regional and state venues where systems changes can occur. One approach could be to insure that federal, state and local policy makers are invited to attend the Annual Summer Institute of the Hispanic Health Disparities Research Center.

Following on the integration of the two centers under the direction of the Vice-President for Research, the BHR may want to consider a consolidation of the centers' two advisory committees into one integrated committee. This approach would allow for increased integration, potentially more efficient use of resources and further insure a focused and on-going input process from all stakeholders throughout the year. Additionally, the reviewers recommend inclusion in the committee of representatives of the state public health departments and other key individuals from Chihuahua, Mexico and the state of New Mexico. This strategy could further improve the international research linkages with Mexico and open new opportunities for research experiences in collaboration with Mexican federal and state authorities.

**Knowledge and Instruction in Advanced and Emerging Technologies**

**Rating: Good**

BHR has developed creative strategies for integrating students into the work of research projects and substantively seeks out and includes faculty from a variety of disciplines/ departments and encourages their collaborative participation in the work of BHR. BHR has targeted and pursued important and diverse fields of study in border health, ranging widely from basic research on gene delivery nanosystems to more applied research on the health effects of drugs and other toxicants, fluoridated drinking water, dietary fiber, nutritional education and supplementation, and air and soil quality to community-based efforts relating to carbon monoxide poisoning and multi-household water treatment systems.

Because of the socio-economic and ethnic diversity in the State of Texas, this work can provide health professionals in Texas, in the other states along the US-Mexico border, nationally and internationally with unique strategies for basic, applied and community-level research as well as health promotion and disease prevention. Beyond scholarly publication, systematic creation of materials that disseminate findings to improve the work of community-level practitioners is an important next step.

**Economic development**

**Rating: Good**

The real and potential economic costs to the State of Texas from the various morbidities and health related social problems of border area residents are enormous. Although some of the health and social benefits stemming from BHR's work may be difficult to directly measure quantitatively, their impact on the health and well-being of border residents has the potential to be extraordinary. Beyond potential impacts on individual health and illness, the impact of the discoveries made and the interventions designed and evaluated on population longevity and productive economic participation

are likely to be substantial. The review team encourages BHR to explore creative ways to document and report these impacts.

***Recommendations:***

BHR has made good use of the special item funds, leveraging these funds to compete for and acquire national research funding, and has accomplished much in terms of faculty development, transdisciplinary collaboration and a diversified research portfolio.

The review team recommends that the BHR:

- Continue to pursue multiple sources of funding for its programs.
- Develop new strategies for expanded dissemination of its research findings, in particular to those beyond the scientific community, including federal and state policy and program directors, and
- Consider the integration of the two existing advisory committees into one consolidated venue that will include international, national and local representatives taking into account added representation from the states of Chihuahua, Mexico and New Mexico, and representatives of federal and state institutions.

Special item funding for the Border Health Research should be continued.



## **Intrinsic Merit**

**Rating: Very Good**

The excellent technical capability of the investigators is documented by successful competition for funds at the national level. The focus of the sickle cell program is the development of strategies to treat sickle cell disease. The treatment of this disease in the African-American and Hispanic populations of Texas is a high priority.

The program achieved national recognition in 2003 through the successful competition for one of the ten Sickle Cell Center grants funded by NIH. This grant is funded through March of 2008 and can be competitively renewed. Texas state funds clearly provided an important foundation for establishment of the Center and will provide critical support for the competitive renewal.

Dr. Betty Pace has recently been appointed the Director of the Sickle Cell Center and Director of the Center for Applied Biology. She was recruited to UT Dallas by Dr. Goodman and is an outstanding, African-American physician scientist.

The Center has recently expanded to include research in the area of nanotechnology. Dr. Draper has constructed carbon nanotubes and plans to target them to tumors with monoclonal antibodies. The goal of these experiments is to sensitize tumor cells to destruction by near infrared light emitted from a laser. This new technology is funded in part by a grant from Frontiers in Science. Dr. Draper has not yet obtained NIH support for this work, but funding through the Center of Applied Biology should be sufficient to generate additional preliminary data for an NIH R01 proposal.

The Center also plans an expansion to support the work of Dr. Juan González on quorum sensing in bacterial populations. This process is essential for the formation of biofilms and, therefore, for the effective colonization and subsequent pathogenesis of animal or plant hosts. An understanding of the basic mechanisms involved in quorum sensing will provide a foundation for developing methods to inhibit biofilm formation and, therefore, potentially to inhibit pathogenesis. Dr. González is an outstanding investigator who has a strong publication record and has successfully competed for NIH and NSF funding.

Both Drs. Draper and González are excellent scientists who have excellent publication records.

In our opinion, all three of research programs cited above have promise for commercialization. It should be noted that all of these projects are basic research programs and there will be unforeseen complications as well as significant competition from other groups. However, the three projects fit the overall intent of the program and represent good investments for the State of Texas.

### **Research Performance**

**Rating: Very Good**

The research is generally of high quality and has provided some solid contributions in the areas under investigation. The State funds have been used to leverage a large amount of extramural funds from NIH and DOD. Excellent publications of papers in the peer-reviewed literature and applications for patents during the past few years indicate the quality of the research. The Principal Investigators direct highly productive laboratories that appear to focus on the most important topics in their respective fields. There is a reasonable probability that the programs will continue to make important contributions and that this could provide a foundation for the development of new therapies for the diseases under investigation.

### **Knowledge and Instruction in Advanced and Emerging Technologies**

**Rating: Very Good**

All of the research programs are focused on important problems and contribute to emerging technologies. Understanding the basic mechanisms of globin gene switching could provide new strategies to treat sickle cell disease. Insights into mechanisms involved in quorum sensing could provide new strategies for inhibiting biofilm formation by pathogens and perhaps for enhancing healthy colonization in animals and plants. Finally, the construction of novel nanotubes that can be effectively and safely delivered to tumor cells could provide new methods for cancer therapy. All of the programs in the Center for Applied Biology have viable instructional components; therefore, students should receive excellent training in basic and applied science.

### **Economic Development**

**Rating: Very Good**

All of the research programs in the Center for Applied Biology are in areas that can enhance the economic development of the State. New treatments for sickle cell disease, cancer and pathogenic bacterial infections could save health care costs in the State and produce revenue through the licensing of technology. The Center encourages the filing of patents through the University and several patents have been awarded to Center members.

The only weakness of the Center is the lack of an external advisory committee. External advisors could help the Center develop an even more effective coordination of research programs. For example, Dr. Pace has tested pharmacological interventions designed to switch hemoglobin in sickle cell patients; however, there is no indication that Drs. Pace and Draper have discussed the development of new or more effective methods to deliver these drugs to patients.

### ***Recommendations:***

Special item funding for the Center of Applied Biology should be continued.

# Chihuahuan Desert Research Project Sul Ross State University

**Funded Since:** FY1984  
**Annual Appropriation:** \$25,000

## ***Background:***

Sul Ross State University is located in a unique trans-national environmental habitat which is used as a research laboratory by scientists from across the world. The goal of the Chihuahuan Desert Research program is to enhance the knowledge and understanding of the natural resources of the Chihuahuan Desert and their socio-ecological implications. Appropriately, Chihuahuan Desert Research is conducted in a variety of disciplines, such as biology, geology, and natural resource management, thus leading to opportunities to enhance knowledge and applications. The Chihuahuan Desert Research appropriations have been used to foster student-assisted research projects through the academic departments at Sul Ross State University.

In the field of biology, Chihuahuan Desert Research funds have provided opportunities to study environmental pathogens, phytochemistry, and vertebrate biology. In the field of geology, the research funds have provided opportunities to study air quality in the Big Bend National Park and the ground water quality of the Chihuahuan Desert region. From the field of Natural Resource Management, the Chihuahuan Desert Research appropriation has provided opportunities to research implications of wild and prescribed fire in Chihuahuan Desert ecosystems, impacts of vegetation manipulation on hydrologic properties of watersheds, and habitat characteristics of economically important game bird populations.

A teleconference review of the Chihuahuan Desert Research Program was conducted on October 16, 2006, by John "Jay" Arnone III, Associate Research Professor, Division of Earth and Ecosystem Sciences, Desert Research Institute, Reno, Nevada; and Raul Valdez, Ph.D., Professor, Department of Fishery and Wildlife Sciences, New Mexico State University, Las Cruces, New Mexico. Drs. Linda Domelsmith and Reinold Cornelius served as the Coordinating Board facilitators for the review.

## ***Evaluation:***

### **Intrinsic Merit**

**Rating: Good**

The program at Sul Ross is small with about nine participating professors in the departments of Biology and Range and Wildlife Sciences. Despite the shortage of personnel, the program is fulfilling its stated objectives of enhancing the knowledge and understanding of the natural resources of the Chihuahuan Desert and their socio-

ecological implications. This includes the education of several graduate students and the functioning of the program as an informal, yet important, extension service. The program provides important information that addresses both local and regional environmental issues. Considering the small level of funding from the state (\$50,000 per biennium), the program is an excellent investment. The program is to be lauded for its high productivity and positive regional impact despite the many other obligations of the faculty, especially the heavy teaching load.

**Research Performance**

**Rating: Good**

The program is highly productive considering its shortage of funding and personnel. The publication output is more than adequate. The university also sponsors workshops and symposia which are an additional method of disseminating information.

**Knowledge and Instruction in Advanced and Emerging Technologies**

**Rating: Good**

The program does use advanced and emerging technologies to the extent that faculty members involved use these in their largely extramurally funded research dictates. The program works in close cooperation with personnel of Texas A&M University in College Station and hence faculty and students can avail themselves of educational and research programs of a larger university. The program makes significant contributions to the area because it focuses on research that has practical application locally and regionally.

**Economic Development**

**Rating: Good**

The results of the program are important to the economic development of the area. The information produced is used by local health services, landowners, and state agencies.

***Other Comments from the Review Panel:***

The program participants are to be applauded for their high productivity in view of the limited number of participants and limited funding.

***Recommendations:***

Special item funding for the Chihuahuan Desert Research Project should be continued.

# Cooperative Agricultural Research Center Prairie View A&M University

**Funded Since:** FY2000  
**Annual Appropriation:** \$751,693

## ***Background:***

The Cooperative Agricultural Research Center (CARC) is the organizational unit within the college of Agriculture and Human Sciences at Prairie View A&M University, originally established as an agricultural experiment substation in 1947, with assigned administrative and managerial responsibilities for research in the food and agricultural sciences. The Center serves to coordinate research activities in four major areas: Animal Systems, Food Systems, Plant and Environmental Systems, and Socioeconomic and Family Systems.

For Fiscal Year 2006, 70 percent of the CARC funding was from federal sources, with 55 percent of that being Evans-Allen Program funding with required a minimum state match of 50 percent. The National Agricultural Research, Extension, and Teaching Policy Act of 1997 was amended by the 2002 Farm Bill, and now reads that Evans-Allen matching shall be for an amount equal to not less than ... 90 percent for FY 2006, and 100 percent for FY 2007 and each fiscal year thereafter. The CARC is working to meet this requirement but will need to continue applying for waivers.

A teleconference review of the Agriculture Research Center was conducted on October 17, 2006, by Pam Hodson, Ph.D., Regional Director, LSU Ag Center Southeast Region Office, Hammond, Louisiana; and Ms. Karen Reichel, Program Coordinator, Food & Fibers Research Grant Program, Texas Department of Agriculture, Austin, Texas. Drs. Linda Domelsmith and Reinold Cornelius served as the Coordinating Board facilitators for the review.

## ***Evaluation:***

### **Intrinsic Merit**

**Rating: Good**

As laid out in the self-study, the goals and objectives of the Center seem broad and may need to be refocused on the Center's strengths.

The Center seems to be spending a lot of time and effort "chasing dollars" required to match the Evans-Allen Federal Funds. In response to the National Agricultural Research, Extension and Teaching Policy Act of 1997, the Dean of the College devotes extensive time traveling throughout the state seeking state support from legislators to match federal Evans-Allen Funds.

Headway is being made as the Center hires additional scientists who will likely be jointly appointed as faculty. Collaborative projects with universities such as Harvard, MIT, and Texas A&M University, and Baylor College of Medicine indicate the high quality of work and qualified staff. Multi-state projects and cooperation with the International Goat Research Center have yielded significant results in goat research.

The Center does a tremendous job of trying to recruit students at the both the high school and collegiate level through apprenticeships and student workers. Work experience for these students has served as an excellent recruiting tool for the University.

### **Research Performance**

**Rating: Good**

The International Goat Research Center established in 1983 at the CARC continues to be a highly regarded establishment within the Dairy and Meat Goat Industry. Patents are being sought for work conducted in the Plant and Environmental Systems and Food Systems focus areas. Staff vacancies in the area of Socioeconomic and Family Systems have resulted in little to no research being conducted. Although they are planning to hire new scientists for this area, resources may be better allocated to one of the other areas.

A decent number of publications have been produced, along with a few patents. The review team would like to stress that the Center should continue to put efforts toward collaborative research with other institutions.

### **Knowledge and Instruction in Advanced and Emerging Technologies**

**Rating: Fair**

The Center is seeking patents in the Food Systems and Plant and Environmental Systems areas that indicate that the researchers are and have the potential to continue to contribute to the development of knowledge in emerging technologies.

The Center has plans to hire joint faculty/researchers in the future. These positions would go a long way in bridging the gap that now exists between the academic university and research center. There is very little evidence that the academic instruction at the university includes the research conducted at the Center, except for student workers gaining knowledge and skill through on-the-job training. The potential exists for this Center to contribute to the development of knowledge and instruction in advanced and emerging technologies.

### **Economic Development**

**Rating: Fair**

The Center's work with dairy and meat goats has a strong potential to directly impact the goat industry. Work in the Food and Environmental Systems could potentially have economic impacts, as well.

Although there is evidence of industry support for the International Goat

Research Center (IGRC), we feel that the Center could benefit from a stakeholder advisory committee to help direct the IGRC and also disseminate the research results.

***Recommendations:***

The Cooperative Research Center should have fewer more clearly defined goals and involve stakeholders in identifying state and regional needs. It should secure more industry support for its programs.

Special item funding for the Cooperative Agricultural Research Center should be continued.

## **Heart Disease and Stroke Research The University of Texas Health Science Center at Houston**

**Funded Since:                      FY 2002**  
**Annual Appropriation:        \$ 5,082,750**

### ***Background:***

The University of Texas Health Science at Houston (UTHSC-H) began receiving Heart Disease and Stroke Research special item funding in 2002. This support has provided financial resources to the Medical School, Institute of Molecular Medicine (IMM), and School of Health Informatics for the recruitment, retention and development of distinguished faculty engaged in heart disease and stroke research. These scientists are identifying causes of hypertension, stroke, and premature heart attacks and are working on new strategies for their cure and ultimate prevention.

Cardiovascular disease and stroke are the number one cause of death in the United States.

IMM researchers are using modern genomic and proteomic technologies to unravel susceptibility to heart disease and stroke. This research has led to the identification of multiple cardiovascular and stroke susceptibility genes, and has attracted the attention of industrial enterprises in Texas. Lexicon, a well-known biological organization in the Houston area, is collaborating with the Center of Molecular Genetics to conduct studies of gene predisposition and protection.

Heart Disease and Stroke funding has been instrumental in the development of Pediatric Surgery's translational research program in brain injury. Specifically, these funds helped initiate the first clinical trial using autologous bone marrow progenitor cells for the treatment of brain injury in children and allowed the creation of a state-of-the-art cellular characterization laboratory for the pre-clinical evaluation of novel cellular therapeutics. The development of the program led to industry collaboration (CBR, Inc., IDA BioSystems, and Wildcat Ventures) and new intellectual property that will be used to develop novel approaches to treat acquired neurologic diseases.

In the Internal Medicine Department, Heart Disease and Stroke funding was used to acquire key equipment to establish core resources, to support studies that identified genes that predispose individuals to aortic and cerebral aneurysms, and to support studies of the mechanisms underlying the survival and differentiation of adult bone marrow stem cells transplanted into an animal model for cardiac injury and cardiac infarction. This therapy holds potential for treating patients with advanced heart failure.

In the School of Health Informatics, Heart Disease and Stroke funding has provided the resources necessary to develop advanced simulation techniques that, for

the first time, provide the kinematics of cardiac muscle contraction at the molecular level.

In other departments, special item funding has been used to buy specialized research equipment and to establish collaborative projects in genomics, proteomics, and bioinformatics to study models of diseases. These funds have been helpful in recruiting new faculty and in expanding programs initially funded with NIH support.

A site visit to the Heart Disease and Stroke Research program at UTHSC-Houston was made on November 29, 2006 by Dr. Stuart Aaronson, Professor and Chair of Oncological Sciences, Mt. Sinai School of Medicine, New York City; Dr. Francois Abboud, Edith King Pearson Chair of Cardiovascular Research, University of Iowa, Iowa City; and Dr. Kenneth Berns, Director of Genetics Institute and Professor of Molecular Genetics and Microbiology, University of Florida, Gainesville. Dr. Linda Domelsmith served as the Coordinating Board facilitator for the visit.

***Evaluation:***

**Intrinsic Merit**

**Rating: Very Good**

This special item is supporting the recruitment of outstanding scientists in cardiovascular and stroke medicine, and now has been broadened to include neurodegenerative diseases, spinal cord injuries, affective disorders, and selected metabolic diseases including diabetes and obesity among others.

It demonstrates the very impressive development of a young health science center with major interactive programs from six different schools (Medicine, Nursing, Dentistry, Public Health, Health Informatics, and Biomedical Graduate School). The program is focusing on the molecular and genetic aspects of major diseases with unmet medical needs. The institution has done a very good job of identifying major health questions that need to be addressed and can now be addressed with modern technologies. Spurred by a very successful fund-raising campaign, a new research institute, the Institute for Molecular Medicine (IMM) with 220,000 square feet of research space, has emerged, established senior scientists have been recruited, and there are promising plans for recruitment of more.

The visionary leadership of Dr. James Willerson, which is exemplified by his early recruitments of Ferid Murad, Hans Muller Eberhard, and Irma Gigli, and more recently Tom Caskey, puts this institute as well as the whole institution in an outstanding position to be a national leader in the areas of research focus. Good use is being made of the people in leadership positions to make collective decisions concerning the development of the IMM to maximize the investment by the state.

## **Research Performance**

**Rating: Very Good**

The research programs and the new scientific leadership are addressing some of the most important areas in genetics of complex diseases, stem cell research, nanomedicine, obesity, diabetes, cardiovascular diseases, and stroke.

In a relatively short time, faculty recruited to the IMM have taken leadership roles in inter-institutional initiatives that are already showing major translational impacts on diseases. The institution is fostering synergistic interactions among most of the higher education institutions in Houston.

Tangible results include the successful acquisition of a major NIH-sponsored Clinical and Translation Science Award (CTSA) in collaboration with M. D. Anderson Cancer Center and a major bio-banking initiative (TexGen) that includes all the major medical centers in Houston.

Substantial new knowledge and excellent publications reflect the creativity and expertise of the new faculty. Worthy of special note is the successful effort of identifying genes involved in aortic aneurysms and dissection.

## **Knowledge and Instruction in Advanced and Emerging Technologies**

**Rating: Very Good**

Emerging technologies include stem cell biology and a nanoscience initiative which is being done in collaboration with UT-Austin and Rice University and includes a combined training program. In informatics, key recruits have expertise in structural biology.

The new technologies have made possible the generation of enormous amounts of genetic data. The ability to comprehend the significance of these data has led to the understanding of the importance of medical and biomedical informatics. The new School of Health Information Sciences reflects the appropriate appreciation of this importance and is a major step to allow the IMM to achieve its goals. This is one of the first, if not the first, schools of its type in the nation.

In all of these areas, graduate students and postdoctoral investigators are active research participants. Sixty medical and postdoctoral students receive support through this special item.

In addition, the important physician-scientist training program is being developed in the context of the new CTSA which itself demonstrates the institution's commitment to translational research.

## **Economic Development**

**Rating: Very Good**

The Texas Medical Center is the number two industry in Houston after oil. The Institute for Molecular Medicine represents an important component that is on the

leading edge in the generation of new knowledge.

Several commercial relationships have been developed. There appears to be an active technology transfer group in place that has already led to multiple patents. The faculty recruited through funding from this special item have contributed significantly to this effort.

Great momentum is evident in the movement from discovery to commercialization.

***Recommendations and Additional Comments:***

The external advisory committee, which offered excellent initial advice, has only met once. It is recommended that its continuing input be sought.

The wisdom of the state program which has helped to support the development of the IMM has had an extraordinary return on investment and is to be highly commended.

UTHSC-Houston and Rice University are assembling an external advisory group for its Nanomedicine Alliance Group which will first meet in January 2007.

Special item funding for the Heart Disease and Stroke Research program at The University of Texas Health Science Center at Houston should be continued.

# Human Nutrition Research Program Texas Woman's University

**Funded Since:** FY1958  
**Annual Appropriation:** \$40,000

## ***Background:***

The mission of Texas Woman's University's Human Nutrition Research Program (HNR) is to conduct research on the relationship of nutrition to health and to educate health care professionals and the public. The program investigates the relationship of food intake to chronic diseases such as cancer, cardiovascular disease, and obesity and develops nutrition and food-safety education materials to promote better health for adults and children. The Texas Woman's University's Human Nutrition Research Program, first funded in 1958 and continually funded biennially since that time, has a long and successful history of conducting nutrition research aimed at improving the health of women and other populations. The program disseminates information about ways in which diet and nutrition promote health and decrease the risk of disease for Texas citizens.

Current research and education projects include a study of classroom nutrition education programs in high school, the effect of commercially available patches (LifeWave) on fat metabolism, the effect of flaxseed oil and fish oil on inflammatory response, the effect of Vitamin E on human tumor growth and gene expression, food-handling practices in three Texas metropolitan areas affected by hurricanes Katrina and Rita, the effect of a compound related to Vitamin E on the proliferation of human pancreatic tumor cells, and the effect of selected food ingredients on a naturally occurring mycotoxin.

A teleconference review of the Human Nutrition and Development Program was conducted on October 30, 2006, by Barbara Arrington, Ph.D., Senior Associate Dean for Academic Affairs, School of Public Health, St. Louis University, St. Louis, Missouri; and Diane Hatton, RN, Professor, Hahn School of Nursing & Health Science, University of San Diego, San Diego, California. Drs. Linda Domelsmith and Reinold Cornelius served as the Coordinating Board facilitators for the review.

## ***Evaluation:***

### **Intrinsic Merit**

**Rating: Good**

The Human Nutrition Research (HNR) Program has modest, realistic, and consistent over time goals and objectives, commensurate with a funding level of \$80,000 biennially, to conduct research on the relationship of nutrition to health and to educate health care professionals in the Department of Nutrition and Food Science.

The program was first funded in 1958. There have been no interruptions in funding since inception, although total awarded dollars have declined. The HNR line item was created at the same time the PhD in Nutrition was approved as Texas Women's University's first doctoral program. Funds have been used to seed Nutrition and Food Science faculty research and support related student research participation, frequently in support of master theses and doctoral and dissertations.

Within a very limited budget, the program has been able to serve its primary clients, the students and faculty involved in the program, well and, indirectly, has served the citizens of Texas by developing well trained clinicians and researchers in the area of nutrition and health. Actual faculty and student beneficiaries of the funds are currently selected by a departmental Resources Committee that advises the program by reviewing proposals and making recommendations for funding at a maximum allowable \$3,000 per project. Past funded projects have resulted in publications co-authored by faculty and students and in scholarly presentations. Ideas developed in funded projects have supported and continue to support the development of larger research grant proposals. Dr. Prasad has plans to enhance the leverage these funds provide by increasing the allowable funds limit to provide adequate support for faculty to develop nationally competitive research proposals. In addition, the review process will be modified to involve the participation of competitively funded faculty from other parts of the university to increase the faculty mentoring effects of the funds as well the rigor and future focus of funded projects.

The review team considers the Human Nutrition Research Program to be a good investment by the State of Texas.

**Research Performance**

**Rating: Good**

Scholarly output related to program funded research during FY2006 includes eight publications in refereed journals, and nine presentations winning three international awards and one national poster award, seven of which were published in conference proceedings of national organizations. In addition, the program partially supported research for two doctoral dissertations and six master theses. Given the small budget, the scholarly performance is very good.

HNR funds have and will continue to support the development of larger proposals for federal funding, multiplying the effects of the program budget. In fact, several proposals have been submitted to federal granting agencies. In addition to the seed development already experienced, Dr. Prasad's plan to enhance the leverage of program funds by providing targeted support for faculty to develop nationally competitive research proposals will likely increase HNR's contribution to departmental scholarly productivity and national and international recognition.

The review team applauds the program for its significant accomplishments to date and expects planned program enhancements to increase the substance and impact of future accomplishments. Also, current and future planned collaborations with

Texas Food and Fiber Commission, UT Southwestern Medical School and UT MD Anderson Cancer Center should contribute to increasing accomplishment over time.

**Knowledge and Instruction in Advanced and Emerging Technologies**

**Rating: Fair**

HNR has provided the opportunity for master and doctoral students to actively participate in faculty research and to publish and present with their faculty mentors. The integration of students and faculty in scholarly activity enhances both the educational and research environments for the Department of Nutrition and Food Science community. HNR funds have supported work on important nutrition-related health issues such as classroom nutrition, obesity, and food handling during disaster.

**Economic Development**

**Rating: Good**

HNR contributes to the economic development of Texas by preparing students to be knowledgeable and productive employees in Texas food and nutrition related industries, companies, corporations, health-services-delivery and community-based organizations as well as contributing educators and researchers for secondary and higher education institutions in the state of Texas and across the nation. Research findings supported by HNR potentially contribute to improvements in the quality and quantity of productive, employable life spans for the citizens of Texas as well as to decreased employee-related health costs for Texas employers and insurers. At a time when the Department of Nutrition and Food Science is increasing its faculty complement, the availability of such funds for faculty research increases the likelihood of recruiting competent educators and researchers to Texas.

***Recommendations:***

HNR has accomplished much with a limited budget. The review team encourages the program to continue its plans to use these funds to enhance the competitive success of larger, federal funding proposals.

Special item funding for the Human Nutrition Research Program should be continued.

# **Institute for Nobel/National-Academy Biomedical Research The University of Texas Southwestern Medical Center at Dallas**

**Funded Since: 2003**  
**Annual Appropriation: \$8,246,403**

## ***Background:***

Funding for the Institute for Nobel/National-Academy Biomedical Research was appropriated specifically to provide incentives for highly sought-after scientists to remain in Texas; bring substantial federal and private grants to Texas; recruit rising-star scientists to work with and be mentored by Nobel Laureates and National Academy members; and cultivate cutting-edge research, as well as commercializable technologies.

When the Institute for Nobel/National-Academy Biomedical Research was first funded, UT Southwestern was home to 13 of the 16 medical National Academy scientists in Texas. Since then, four of the six elected have been from UT Southwestern. It is also home to four Nobel Laureates. These scientists are enticed continually with first-rate offers of research support by some of the leading institutions in the world. The Institute ensures that UT Southwestern can offer competitive support to seed their new ideas and provide infrastructure. Additionally, 23 promising young scientists have been recruited and supported with this funding through an "Endowed Scholars" program.

The funds for the Institute for Nobel/National-Academy Biomedical Research are used to support research of the 17 members of the National Academy at UT Southwestern -- including four Nobel Laureates -- and of recently-recruited faculty honored as "Endowed Scholars." This Institute is used as part of an ongoing effort to attract and retain the best and brightest young medical investigators and to maintain the institution's pre-eminence in science.

Research fields supported through this Institute include biochemistry, cell biology, cell regulation, endocrinology, immunobiology, metabolism, molecular biology, neuroscience, pathology, pharmacology, physiology, and psychiatry. Special item funding has led to an increased number of quality publications, external grant funding, and patent royalty income.

A site visit to the Institute for Nobel/National-Academy Biomedical Research at UT Southwestern was made on November 28, 2006 by Dr. Stuart Aaronson, Professor and Chair of Oncological Sciences, Mt. Sinai School of Medicine, New York City; Dr. Francois Abboud, Edith King Pearson Chair of Cardiovascular Research, University of Iowa, Iowa City; and Dr. Kenneth Berns, Director of Genetics Institute and Professor of Molecular Genetics and Microbiology, University of Florida, Gainesville. Dr. Linda

Domelsmith served as the Coordinating Board facilitator for the visit.

**Intrinsic Merit**

**Rating: Very Good**

In essence there are two components to the program: the Nobel Laureates/National Academy retention program and the Endowed Scholars program, primarily a recruitment tool for outstanding young faculty. The Institute for Nobel/National-Academy Biomedical Research has been highly successful in providing salary support, research support, and support for critically needed core facilities and equipment. As a result, the retention of the Nobel and National Academy scholars continues to be 100 percent in the face of repeated outside recruitment attempts.

The Endowed Scholars program has brought in 40 young faculty to date who have been almost uniformly successful and have enhanced the academic environment of the institution. An attractive component of the recruitment process is that it is done on an interdisciplinary basis and thereby increases interaction among the various academic units. The selection committee is internal and is composed of academic leaders from the institution. The scholars are selected on a very competitive basis from nominations submitted by various departments. The Endowed Scholars Program has also helped raise the overall standard of recruitment throughout the university. Finally, the program is monitored by a most distinguished external advisory committee.

Both the Institute for Nobel/National-Academy Biomedical Research and Endowed Scholars program have helped UT Southwestern Medical Center to be competitive with the very finest medical institutions in the country. This program is absolutely a good investment for the state. The funding is targeted to recruitment and retention of highest quality individuals. The overall emphasis is on the most-promising young people.

The operation of the administration is set up to create and foster an interdisciplinary and highly interactive environment establishing synergies that propel their research programs forward.

**Research Performance**

**Rating: Very Good**

UT Southwestern clearly has done an outstanding job in selecting very significant areas of research with the Institute for Nobel/National-Academy Biomedical Research and the Endowed Scholars Program. They take the best individuals and let them evolve, building on institutional and investigator strengths. As a consequence they have done a lot of significant research in very important areas. Every measurable record of academic productivity, performance, and quality has been achieved. The name of the program reflects this level of achievement.

**Knowledge and Instruction  
in Advanced and Emerging Technologies**

**Rating: Very Good**

The programs of the Institute are effectively integrated into the academic programs of the institution. The research is conducted by the faculty and graduate students, as well as professional staff. The research is both relevant and very well incorporated into the institutional instructional program.

An example of a contribution to knowledge in advanced and emerging technology is their creation of a highly advanced imaging center with innovative techniques and new agents that may lead to improved treatments for diabetes, drug addiction, obesity, and metabolic and neurological diseases.

Commercializable technologies include cardiac disease therapeutics, vaccines, and immunotoxins for cancer.

Through the programs, 360 students work directly in the labs of Nobel Laureates and National Academy faculty members. The program created 10 to 11 state-of-the-art core facilities which serve as an important resource for basic science and clinical investigators.

**Economic Development**

**Rating: Very Good (as an economic engine)  
Good with potential to be great (commercialization)**

UT Southwestern is securing patents and licensing agreements. The institution reports that it now ranks in the top 25 of all United States universities and medical centers in intellectual property revenue. Research conducted at UT Southwestern led to Myogen, a spin-off company, which was a great success and recently sold for \$2 billion.

Their recent identification and characterization of a gene, known as the PCS K-9 gene, which degrades low-density lipoprotein (LDL) receptors, has led to evidence that loss of function is associated with a 10-fold reduction in cardiovascular disease. This new target offers the possibility of developing novel drugs with multibillion-dollar potential.

The institution, per se, is one of the major, economic engines in the Dallas metropolitan area. It employs thousands, brings in \$300M in federal funds, and operates on an overall revenue \$1.25B which includes the university hospitals.

Not only does UT Southwestern generate enormous operating revenue, but it also contributes significantly to the health and well-being of the Dallas population.

***Recommendations and Additional Comments:***

The Institute for Nobel/National-Academy Biomedical Research and the Endowed Scholars Program have been highly successful and indicative of the wisdom

of targeting funding based on programmatic quality. This type of support becomes increasingly critical for the state as its economy becomes evermore science based.

The national and state economies are rapidly becoming very dependent on biosciences. The targeted investment in the bioscience programs of UT Southwestern becomes a major boost and driver of both the state and national economies.

Support by the state for infrastructure for commercialization of discoveries made by UT Southwestern faculty could have major additional impact on economic development.

As this program develops, it would benefit from the establishment of an external advisory committee composed of academic scientists and people knowledgeable in the commercial development of biotechnology.

Special item funding for the Institute for Nobel/National Academy Biomedical Research at the University of Texas Southwestern Medical Center at Dallas should be continued.

**Institute for Women's Health (formerly known as the Center  
for Research on Women's Health)  
Texas Woman's University**

**Funded Since:                      FY1993**  
**Annual Appropriation:            \$167,005**

***Background:***

The Institute for Women's Health (IWH), formerly known as the Center for Research on Women's Health, was established on the TWU-Denton campus in 1993. The mission of the IWH has always been to gather data and disseminate information that will lead to cost-effective disease prevention and health maintenance programs for women and girls.

In 2003, the IWH joined the College of Health Sciences. It serves as a research and education resource for TWU's health professions programs on the Denton campus. The Institute's vision is to become one of the foremost comprehensive authorities on the health and well-being of women in all stages of their lives. Its mission is to enhance the health and well-being of women across their lifespan through research, education, and advocacy.

The IWH has forged partnerships that link a variety of academic institutions, community-based organizations, and government agencies united by the common goal of advancing the health and well-being of women and girls in Texas.

The IWH's osteoporosis study spans 50 years and has collected bone density data on 4,000 people to help predict fracture risk. The IWH's Eating, Activity, Self-Esteem (EASE) project is designed to integrate family and school to reduce childhood obesity. In a related project, a multidisciplinary team of scientists studies the psychosocial aspects of the onset and development of obesity. Researchers from psychology, nutrition, family sciences, dental hygiene, and kinesiology disciplines are developing novel interventions to counter health problems in college students in the IWH's Student Health Research Laboratory

A teleconference review of the Center for Research on Women's Health was conducted on October 20, 2006, by Barbara Arrington, Ph.D., Senior Associate Dean for Academic Affairs, School of Public Health, St. Louis University, St. Louis, Missouri; and Diane Hatton, RN, Professor, Hahn School of Nursing & Health Science, University of San Diego, San Diego, California. Drs. Linda Domelsmith and Reinold Cornelius served as the Coordinating Board facilitators for the review.

***Evaluation:***

**Intrinsic Merit**

**Rating: Good**

The IWH has an ambitious vision to become one of the foremost comprehensive authorities on the health and well-being of women in all stages of their lives and is making good progress in this regard. Its mission is to enhance the health and well-being of women across their lifespan through research, education, and advocacy. Indeed, the Institute is well positioned to serve the 11 million women and girls in Texas, many lacking important health information and health care. Because Texas Women's University has a major role in educating 300 health professionals with advanced degrees each year, the Institute is situated in a rich environment to capitalize on educational, research, and advocacy opportunities.

With a limited budget, the IWH has made substantive contributions in areas such as obesity, including childhood obesity (Growing with EASE Project); bone density and osteoporosis (Pauline Beery Mack Project); and longitudinal work linking women's medical, behavioral, and nutritional history with their physiological profile (Pioneer Project). In addition, the quality of the Institute's work was recognized during 2006 through a "Best Practices Award: for the Growing with EASE Project" at the Annual Conference on Parent Education, Denton, TX; and the "Top Research Poster" at the School Nutrition Association in Los Angeles, CA. With plans to aggressively pursue external private and governmental funding, the Institute's work should receive additional national and international recognition in the future.

The Institute is headed by a capable staff, and provides additional investigators multidisciplinary research opportunities such as the four faculty awarded summer stipends in 2006. IWH also facilitates graduate students conducting research: three MS theses completed in 2005-06 and six in progress; and three PhD dissertations in progress.

The review team considers the IWH to be a good investment for the State of Texas. Although its vision, to become one of the foremost comprehensive authorities on the health and well-being of women in all stages of their lives, is exceedingly ambitious, the Institute has clearly documented its progress and recognition toward enhancing the health and well-being of women in the areas noted.

**Research Performance**

**Rating: Good**

Papers based on the Institute's research during FY2006 include seven publications in refereed journals and four manuscripts submitted for review. In addition, the Institute faculty has participated in numerous conferences at national, regional, and state levels and has contributed to books and book chapters. Given the small faculty FTE and budget, the publication record is good and improving over time. In addition, the Institute has disseminated its work at a number of public service venues including: workshops, symposia, a summer camp, and a community health fair. IWH involves

undergraduate and graduate students in much of its work, laying the foundation for the development of future researchers in important areas of inquiry.

IWH has plans to aggressively seek funding opportunities in the future and notes that the greatest problem facing the Institute in the next five years will be “expanding resources for support of women’s health.” The investigators have submitted a proposal to NIH to support the Growing with Eating, Activity, and Self-Esteem project. With regard to other non-State funding, the Institute reports \$16,284 in “private” funds available in FY2006 and “other” sources provided \$18,500.

The review team commends the IWH for its NIH proposal and encourages resubmission. The team also recommends that the IWH staff continue to pursue other federal support as well as foundation and other private sources as funding from the National Institutes of Health has grown increasingly limited. Finally, the review team encourages the Institute to secure funding for its established areas of research prior to expanding to new areas such as breast cancer.

**Knowledge and Instruction in Advanced and Emerging Technologies**

**Rating: Fair**

The IWH has developed creative strategies for integrating both graduate and undergraduate students into the work of research projects. The Institute clearly reaches out to faculty from a variety of disciplines/departments and encourages their participation in the IWH.

The IWH has targeted and pursued important fields of study in such areas as nutrition, obesity, diabetes, and osteoporosis. Because of the socio-economic and ethnic diversity in the State of Texas, this work can provide health professionals nationally and internationally with unique strategies for health promotion and disease prevention. In addition the staff noted how they have translated many of their research instruments into Spanish. These products are extraordinarily valuable to other researchers, nationally, and the review team encourages the IWH staff to publish their translated work in referred journals with documentation of their procedures and evidence of validity and reliability. Beyond scholarly publication, systematic creation of materials that disseminate findings to improve the work of community-level practitioners is an important next step.

**Economic Development**

**Rating: Good**

The economic costs to the State of Texas from the morbidities associated with health problems such as obesity, diabetes, and osteoporosis are enormous. Although some of the health benefits stemming from the work of the IWH may be difficult to measure quantitatively, their impact on the health of women in Texas and their families has the potential to be extraordinary. Beyond potential impacts on individual health and illness, the impact of the interventions employed on family function and cohesion are likely substantial, contributing to the potential economic participation and productivity of all family members. For example, the IWH staff described to the reviewers how schools

involved in their programs have become community centers for parents who now visit during the day and even use the gymnasium. The review team encourages the IWH staff to explore creative ways to document and report these impacts.

***Recommendations:***

The Institute staff has accomplished much with a very limited budget in the areas such as nutrition, obesity, and osteoporosis. The review team encourages IWH staff to continue to pursue multiple sources of funding for these programs. The reviewers also recommend that the IWH consider establishing an Advisory Committee with representation from professional colleagues and consumers. This committee can provide input regarding how the Institute can be most responsive to client needs and relevant topics; also, it can assist in setting realistic goals and identifying means for wider dissemination of research findings to improve practice.

Special item funding for the Institute for Women's Health should be continued.

## **Research Support**

### **The University of Texas M. D. Anderson Cancer Center**

**Funded Since:                      FY 2002**  
**Annual Appropriation:            \$1,662,500**

#### ***Background:***

The University of Texas M. D. Anderson Cancer Center (M. D. Anderson) uses its “Research Support” to fund its Faculty Excellence program, which strengthens the institution’s ability to attract world-renowned cancer scientists and provide start-up support for the research activities of these recruits. The institution is committed to expanding current research efforts to carry out the most innovative investigations of the cause, diagnosis, treatment, and prevention of cancer. Science has identified many new potential targets for cancer treatment and prevention. These resources allow for the expansion of knowledge about the molecular pathways that regulate cell proliferation, providing scientists a better understanding of the ways that the body's natural response to cancer can be enhanced.

This funding has provided essential seed dollars for the development of two new programs on M. D. Anderson’s South Campus (The University of Texas Research Park) – the Center for Advanced Biomedical Imaging Research and the Center for Cancer Immunology Research. These centers are essential units of the McCombs Institute for the Early Detection and Treatment of Cancer, which brings together leaders in key areas of biomedical research to focus on molecular-based approaches to cancer diagnosis and treatment. The McCombs Institute will accelerate discoveries into the causes of cancer and help develop individualized approaches to the treatment of cancer patients.

Research Support funding has been leveraged with external and internal sources of funding to assist with recruitments and provide start-up funding for basic science and clinical research, supporting five new cancer scientists in the Center for Advanced Biomedical Imaging Research and 12 new scientists in the Center for Cancer Immunology Research. In addition, partial start-up support for 138 basic and clinical research faculty and department chairs has been provided in the following areas: Surgery (27), Cancer Medicine (23), Pathology and Laboratory Medicine (19), Basic Sciences (16), Internal Medicine (14), Radiation Oncology (14), Pediatrics (10), Diagnostic Imaging (7), Cancer Prevention (6), and Anesthesiology (2).

A site visit to the Research Support program at M. D. Anderson Cancer Center was made on November 29, 2006 by Dr. Stuart Aaronson, Professor and Chair of Oncological Sciences, Mt. Sinai School of Medicine, New York City; Dr. Francois Abboud, Edith King Pearson Chair of Cardiovascular Research, University of Iowa, Iowa City; and Dr. Kenneth Berns, Director of Genetics Institute and Professor of Molecular

Genetics and Microbiology, University of Florida, Gainesville. Dr. Linda Domelsmith served as the Coordinating Board facilitator for the visit.

***Evaluation:***

**Intrinsic Merit**

**Rating: Very Good**

The program is fulfilling its stated goals and objectives. This is attested to based on its publications, patent applications, developing and strengthening centers of excellence, and development of new therapeutic and diagnostic agents.

The work is of high quality and is being conducted by high quality faculty and staff.

Two examples are the recent recruitments of Dr. Yong-Jun Liu to establish the Center for Cancer Immunology Research and Dr. Juri Gelovani to head the Department of Experimental Diagnostic Imaging and to establish the Imaging Center.

The program is responding to its clients' needs by creating new centers of excellence which complement existing programs at M. D. Anderson Cancer Center.

The institution has rigorous strategic planning and evaluation processes. Department chairs and additional senior scientists act as a committee for strategic planning to advise Dr. John Mendelsohn, President, and Dr. Margaret Kripke, Executive Vice President and Chief Academic Officer. In addition to this institutional internal planning group, the National Cancer Institute-funded Cancer Center core grant has an external advisory committee board that reviews all existing research programs and all strategic plans for new program development.

M. D. Anderson Cancer Center is one of the premier cancer centers in the nation and receives more National Cancer Institute funding than any other institution in this country. It is internationally recognized for its research and patient care. It treats 27,000 new patients a year in addition to 10,000 clinical trial patients, a record that sets a standard.

The program is an outstanding investment for the state.

Plans for new research facilities are aggressive and well-justified.

**Research Performance**

**Rating: Very Good**

The two major efforts receiving special item funding, cancer immunobiology and imaging, are highly relevant areas of cancer research. The efforts to develop cancer vaccines represent a challenging area in which the systematic approaches and high-quality faculty provide promising venues. Newly recruited faculty have impressive credentials and have already demonstrated productivity.

The Center for Advanced Biomedical Imaging Research (CABIR) provides a very important and promising direction for future research.

The review team commends the planned development of a division of Quantitative Sciences that will contain three departments: Biostatistics, Bioinformatics, and Medical Informatics.

In the future, the determination of the most appropriate therapy for each patient will depend on knowledge of this patient's tumor genome profile. A start in this direction has been made by the recruitment of Dr. Garth Powis who will lead the Center for Targeted Therapy.

These important benchmarks of growth represent tremendous leveraging of the state's research support.

**Knowledge and Instruction  
in Advanced and Emerging Technologies**

**Rating:** Very Good

Basic and clinical research is conducted by faculty, post doctoral students, and fellows in training. The trainees are exposed to state-of-the-art technologies used in cancer research.

The institution has 400 clinical fellows. Fellows from throughout the world come to M. D. Anderson Cancer Center to receive training in advanced medical imaging.

This cancer center offers master's and doctoral-level degrees in cooperation with The University of Texas Health Science Center at Houston.

**Economic Development**

**Rating:** Very Good

The program has generated two start-up companies in the area of vaccine development. The institution has recruited a Vice President for Technology Commercialization. M.D. Anderson Cancer Center has partnerships with GE and Siemens to equip the McCombs Institute for Early Detection and Treatment of Cancer. The institution is also working with 3M Pharmaceuticals and has established several additional industrial collaborations.

The institution is developing robust industry collaborations which could lead to joint endeavors, interactions that could provide resources for faculty development.

The program is clearly encouraging patents and commercialization of research results.

M. D. Anderson Cancer Center's annual operating budget is \$2.2 billion which provides economic strength in the Houston area and in the state.

Their imaging research provides exceptional opportunity for technologic innovations and enhancement of patient care.

***Recommendations and Additional Comments:***

The state should be commended for its investment in this outstanding national and international resource. It is one of the premier cancer centers in the nation.

Independent indicators of this assessment are ongoing collaborations with major cancer centers in Asia and Europe.

MDACC is pursuing a global presence. Special item funding for the Research Support program at The University of Texas M.D. Anderson Cancer Center should be continued.



needs through its educational and research programs. The Institute has an excellent research component and is highly productive. It has positive regional, national, and international impacts. The program is an exceptionally good investment for the state.

**Research Performance**

**Rating: Very Good**

The program is engaged in excellent research and teaching which incorporates the latest technology. Its publication record and quality are one of the most productive and respected in the nation. Its research findings are published in highly respected refereed journals and often cited in the technical literature. The program actively disseminates the research results through a variety of direct-contact forums directed principally at landowners.

**Knowledge and Instruction in Advanced and Emerging Technologies**

**Rating: Very Good**

The program does emphasize its efforts on advanced and emerging technologies especially as they relate to applied aspects. The research is conducted by faculty and students in an integrated effort to maximize research and educational efforts and outputs.

**Economic Development**

**Rating: Very Good**

The results of the program are highly important to the economic development of the state and region. The program disseminates the results of the research through scientific and popular literature and through symposia and workshops and other forms of direct contact with landowners. The results contribute significantly to the economic development of the state because of its practical applications in wildlife management, especially its use by landowners who benefit economically. State agencies also benefit from the research.

***Other Comments from the Review Panel:***

The program is to be lauded for its productivity and applicability of its research. The output of graduate students is also exceptional. The program has international applications because of its applicability to northern Mexico. It is an excellent investment for the state because it has significant economic and educational impacts. The program is a model for other national and international wildlife research and educational programs.

***Recommendations:***

Special item funding for the Wildlife Research Institute should be continued.

## Appendix A

### Texas Education Code, Chapter 144 -- RESEARCH ASSESSMENT PROGRAM

#### Sec. 144.001. Definitions.

In this chapter:

- (1) "Assessment program" means the research assessment program established under this chapter.
- (2) "Coordinating board" has the meaning assigned by Section 141.001 of this code.
- (3) "Research program" means research conducted by separate research divisions, including research bureaus or institutes and separately budgeted or financed research investigations, that is subject to evaluation and review under this chapter, but does not include departmental research not separately budgeted or financed or contract research and services.
- (4) "Institution of higher education" has the meaning assigned by Section 61.003(8) of this code.

#### Sec. 144.002. Establishment; Purpose.

The research assessment program is established to provide for biennial review and evaluation by the coordinating board of all research programs in all public institutions of higher education.

#### Sec. 144.003. Guidelines and Procedures.

(a) The coordinating board shall appoint an advisory committee consisting of representatives of higher education and private enterprise and other experts in relevant research areas to review and evaluate the research programs.

(b) The coordinating board with the advice of the advisory committee shall develop guidelines and procedures to evaluate the research programs for intrinsic merit, research performance, and the potential contribution of the research to the development of knowledge and instruction in advanced and emerging technologies and the economic growth of this state.

#### Sec. 144.004. Report of Findings.

(a) Not later than September 1 of the second year of each biennium, the coordinating board shall report to the Legislative Budget Board the preliminary findings of the advisory committee's assessment conducted under this chapter and make

recommendations concerning reauthorization, revision, or discontinuation of each research program.

(b) The Legislative Budget Board shall determine the schedule for the review of the research and technology programs that are subject to biennial review and evaluation under this chapter.

**Appendix B**  
Texas Higher Education Coordinating Board  
**2006 Research Assessment Program Self-Study**

Completed Self-Studies are due to the Coordinating Board by September 15, 2006. See page 12 for details.

Name of Program:	Director:
Name of Institution:	
Program Mailing Address/ Telephone/Fax/E-Mail:	Name/Address/Telephone/Fax/E-Mail of Person to whom questions concerning this document should be addressed:
Executive Summary (200-word description of mission, objectives, benefits to State):	
Director Signature:	Authorized Institutional Representative Signature:
	Title:
Date:	Date:

## Program Summary

	FY2005 Dollars	FY2006 Dollars
Special Item Expenditures (see Part III.3.)		
External Support: (see Part IV.3.)		
Federal Research		
Federal Other		
Industrial Research		
Private or Foundation		
State and Local Agency		
Other		
Licensing Income (see Part IV.6.)		
	FY2005 Number	FY2006 Number
Personnel Receiving Support (FTE's): (see Part II.3.)		
Faculty		
Professional Staff		
Support Staff		
Students		
Publications: (see Part IV.8.)		
Journal Publications		
Conference Proceedings		
Technical Reports		
Theses (MS or Ph.D.)		
Other		
Intellectual Property: (see Part IV.4. and 6.)		
Patents Filed		
Patents Awarded		
Copyrights Filed		
Copyrights Issued		
Public Service: (see Part IV.12.)		
Workshops		
Symposia		

## PART I - RESEARCH MISSION AND HISTORY

1. Check the box which most closely describes your program:

- Facility Operation       "Mini" Granting       Other  
 Research Unit       Public Service Organization

2. Describe the goals and objectives of the research activities of this program.

3. When was this program created and by what action? Attach a copy of the enabling action, e.g., statute, Board of Regents minute order, etc.

4. When did the program first receive special item funding? (Indicate any interruptions in state funding). If the program existed prior to receiving special item funding, what was the source of funding?

5. What was the purpose of the program when it was created?

6. How has the purpose of this program changed since it was created?

7. List other programs in Texas with comparable goals and objectives and comment, to the extent possible, on the similarities and differences.





3. Personnel Summary

Provide a list of all individuals who received financial support from the program during fiscal year 2006. Include name, full/part time (%), and status (faculty, other professional staff, support staff, students). If more than 12 people were supported, show the number and full-time equivalent (FTE) of each category of employee. If the program is new, show projected staffing for FY2007

FY2006

<u>Name/Title</u>	<u>Status</u>	<u>Percent Time</u>
-------------------	---------------	---------------------

4. How is the special item program integrated into the academic program of the institution? Include a description of student exposure to or participation in advanced or emerging technologies as a result of this program.

5. Describe the administrative mechanism(s) used to develop program focus and priorities.

6. Does the program have an advisory group? If so, provide a list of members, dates convened during 2005 and 2006 and most significant contributions to the program to date.

7. Who are the program's clients, how are they identified, and how are their needs determined?

8. How does the program contribute to the economic development of Texas?

**PART III - FINANCIAL SUMMARY**

1. Budgets for FY2005 and FY2006

Attach a completed copy of the research program's Legislative Budget Board Appropriations Request forms for FY2006-2007 to this report. Be sure it includes the "SPECIAL ITEM SUPPLEMENTAL INFORMATION" page.

2. Budget Summary Table FY2005 to FY2006

Fill in the table below. If data are not available for specific entries, provide estimates and indicate them with asterisks (\*).

Source of Funds:	FY2005	FY2006	FY2007 (est.)
Special Item			
Other State Support			
Federal			
Private			
Other			
Total Operating Budget for Entity			

3. Expenditure of Special Item Funds FY2005 and FY2006

Fill in the table below. If data are not available for specific entries, provide estimates and indicate them with asterisks (\*).

	FY2005	FY2006
A. Personnel		
Faculty		
Professional Staff		
Support Staff		
Students		
B. Permanent Equipment		
C. Travel		
D. Facilities, Rent		
E. Other Direct Costs		
Total		

#### **PART IV - PROGRAM OUTCOMES**

This section requires information about the results of the program's activities.  
Please complete all sections that are appropriate.

1. Briefly describe the program's three most significant research accomplishments during FY2005 and FY2006.

2. List any major collaborative research associations with other programs or organizations during FY2006.

3. List external support received for FY2005 and FY2006.

Period Covered

Source

Total Amount

a. Federal research

b. Federal other

c. Industrial research

d. Private and foundation

e. State and local agency

f. Other

4. Patents filed and/or issued in FY2005 and FY2006.

5. Copyrights filed and/or issued FY2005 and FY2006.

6. Licensing income received in FY2005 and FY2006. List separately, identifying sources.

7. Describe commercializations of program-developed technologies which occurred in FY2005 and FY2006.

8. List of publications based on program's research effort during FY2006, including those in press. Put an asterisk next to the refereed publications. If more than ten in any category, briefly describe them instead of providing a list.
  - a. Journal Publications
  - b. Conference Proceedings
  - c. Technical Reports
  - d. Theses (indicate M.S. or Ph.D.)
  - e. Other
9. List website urls or attach up to five reports from news agencies or other external groups that highlight the program's research activities.
10. List names, companies, and locations of students supported by the program who accepted industrial positions during FY2005 and FY2006.
11. List visiting scientists who participated in the program during FY2006. (Give institutional affiliation).
12. Public service in FY2006. List workshops, symposia etc.







## Appendix C

### EXECUTIVE SUMMARIES FROM PROGRAM SELF-STUDIES

Border Health Research, The University of Texas at El Paso .....	C-2
Center for Applied Biology, The University of Texas at-Dallas .....	C-3
Chihuahuan Desert Research Project, Sul Ross State University .....	C-5
Cooperative Agriculture Research Center, Prairie View A&M University .....	C-6
Heart Disease and Stroke Research, The University of Texas Health Science Center at Houston.....	C-7
Human Nutrition Research Program, Texas Woman's University .....	C-8
Institute for Nobel/National-Academy Biomedical Research, The University of Texas Southwestern Medical Center-Dallas .....	C-9
Institute for Women's Health, Texas Woman's University .....	C-10
Research Support, The University of Texas M.D. Anderson Cancer Center .....	C-11
Wildlife Research Institute, Texas A&M University-Kingsville.....	C-13

Texas Higher Education Coordinating Board  
**2006 Research Assessment Program Self-Study**

Completed Self-Studies are due to the Coordinating Board by September 15, 2006. See page 12 for details.

Name of Program: Border Health Research	Director: Roberto Osegueda Vice President for Research
Name of Institution: University of Texas at El Paso	
Program Mailing Address/ Office of Research & Sponsored Projects University of Texas at El Paso Administration Bldg Room 209 El Paso, Texas 79968 Telephone/Fax/E-Mail: <u>rosequeda@utep.edu</u> O (915) 747-5680 F (915) 747-6474	Name/Address/Telephone/Fax/E-Mail of Person to whom questions concerning this document should be addressed: Roberto Osegueda Office of Research & Sponsored Projects University of Texas at El Paso Administration Bldg Room 209 El Paso, Texas 79968 <u>rosequeda@utep.edu</u> O (915) 747-5680 F (915) 747-6474
Executive Summary (200-word description of mission, objectives, benefits to State):  UTEP's mission in the utilization of Special Item Border Health Research Funds is to provide the initial investment needed for the support of interdisciplinary bioscience and health science research in the pursuit of applied and clinical solutions to health related problems of the U.S./Mexico border region.  The objectives of this program are to build a comprehensive spectrum of regionally-relevant health research programs; provide the impetus for building interdisciplinary basic, applied, and clinical research programs related to health and environmental problems; and secure external funding that will provide the resources to target areas of health concerns that disproportionately affect Hispanics and residents in general of the U.S./Mexico border region.  The U.S./Mexico border region is one of the most populous yet most economically underdeveloped areas in Texas. Improving the health and well-being of border residents will improve efforts toward educational and economic development in the area. The State also benefits from revenues brought to the region through extramural funding of biomedical and health research by such agencies as the National Center on Minority Health and Health Disparities and the National Institute of Environmental Health Sciences.	
Director Signature:	Authorized Institutional Representative Signature:  Title: Dr. Richard Jarvis, Provost
Date: <b>SEP 15 2006</b>	Date: <b>SEP 15 2006</b>

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**RESEARCH GRANTS  
AND DEVELOPMENT**

Texas Higher Education Coordinating Board  
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Completed Self-Studies are due to the Coordinating Board by September 15, 2006. See page 12 for details.

<b>Name of Program:</b> Center for Applied Biology	<b>Director:</b> Hobson Wildenthal
<b>Name of Institution:</b> The University of Texas at Dallas	
<b>Program Mailing Address/          Telephone/Fax/E-Mail:</b>  The University of Texas at Dallas PO Box 830688 Richardson, Texas 75083 972-883-2271 972-883-2276 wildenbh@utdallas.edu	<b>Name/Address/Telephone/Fax/E-Mail of Person to          whom questions concerning this document should          be addressed:</b>  Hobson Wildenthal The University of Texas at Dallas PO Box 830688 Richardson, Texas 75083 972-883-2271 972-883-2276 wildenbh@utdallas.edu

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RESEARCH GRANTS  
 AND DEVELOPMENT

**Executive Summary (200-word description of mission, objectives, benefits to State):**

The Center for Applied Biology was created and has been operated to support the application of the tools of modern molecular and cell biology and gene manipulation to solve problems of immediate societal importance in the areas of environment and human health. It provides a funding superstructure to support the acceleration of promising initiatives into full productivity.

In the first years of the Center's operation, the focus was on the development of environmentally benign techniques of pest control, under the leadership of Professor Lee Bulla. With the maturation of this program and the migration of its support to external grants and venture capital, the focus of the Center shifted to research on Sickle Cell Disease, under the leadership of Professors Betty Pace and Steven Goodman, and on the applications to medical research of nanotechnology, under the leadership of Professor Rockford Draper. Direct financial support of Professor Bulla's research occurred through FY 2005, while during FY 2006 support for his efforts shifted to private funds from venture capitalists under the aegis of his firm Biological Targets, even though he continues to collaborate with other members of the Center. In FY 2006 a research program in BioNanotechnology was initiated with support from Center funds and from local industry, under the leadership of Dr. Rockford Draper.

Under the leadership of Drs. Pace and Goodman, the support from the separately funded budget item for the Center for Applied Biology has been instrumental in building numerous research collaborations and generating substantial federal research funding. Collaborations between the core faculty, many other faculty at UT Dallas in Biology, Chemistry, Neuroscience, and Engineering, with U. T. Southwestern, and with the industrial firm Zyvex have been fostered through the Institute for Biomedical Science and Technology (IBMST), the Sickle Cell Disease Research Center, and the BioNano research program.

Director Signature:	Authorized Institutional Representative Signature:  Title: Executive Vice President and Provost
Date: September 11, 2006	Date: September 11, 2006

**2006 Research Assessment Program Self-Study RESEARCH GRANTS  
AND DEVELOPMENT**

Completed Self-Studies are due to the Coordinating Board by September 15, 2006. See page 12 for details.

Name of Program: Chihuahuan Desert Research	Director: Dr. David Cockrum, Provost
Name of Institution: Sul Ross State University	
Program Mailing Address/ Telephone/Fax/E-Mail: Dr. David Cockrum, Provost Office of Academic Affairs Box C-106, SRSU Alpine, TX 79832 Phone: 432.837.8036      Fax: 432.837.8028 <a href="mailto:dcockrum@sulross.edu">dcockrum@sulross.edu</a>	Name/Address/Telephone/Fax/E-Mail of Person to whom questions concerning this document should be addressed: Dr. Jim Case, Dean School of Arts and Sciences Box C-88, SRSU Alpine, TX 79832 Phone: 432.837.8368      Fax: 432.837.8382 <a href="mailto:jcase@sulross.edu">jcase@sulross.edu</a>
<p>Executive Summary (200-word description of mission, objectives, benefits to State):</p> <p>Sul Ross State University is located in a unique trans-national environmental habitat which is used as a research laboratory by scientists from across the world. The goal of the Chihuahuan Desert Research program is to enhance the knowledge and understanding of the natural resources of the Chihuahuan Desert and their socio-ecological implications. Appropriately, Chihuahuan Desert Research is conducted in a variety of disciplines, such as biology, geology, and natural resource management, thus leading to opportunities to enhance knowledge and applications. The Chihuahuan Desert Research appropriations have been used to foster student-assisted research projects through the academic departments at Sul Ross State University.</p> <p>In the field of biology, Chihuahuan Desert Research funds have provided opportunities to research environmental pathogens, phytochemistry, and vertebrate biology. In the field of geology, the research funds have provided opportunities to research air quality in the Big Bend National Park and ground water quality of the Chihuahuan Desert region. From the field of Natural Resource Management, the Chihuahuan Desert Research appropriation has provided opportunities to research implications of wild and prescribed fire in Chihuahuan Desert ecosystems, impacts of vegetation manipulation on hydrologic properties of watersheds, and habitat characteristics of economically important game bird populations</p>	
Director Signature:  David L. Cockrum, Ph.D.	Authorized Institutional Representative Signature:  Title: Provost and Vice President for Academic And Student Affairs
Date: September 13, 2006	Date: September 13, 2006

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Completed Self-Studies are due to the Coordinating board by September 15, 2006. See page 14 for

<b>Name of Program:</b> Cooperative Agricultural Research Center	<b>Director:</b> Alfred L. Parks
<b>Name of Institution:</b> Prairie View A&M University	
<b>Program Mailing Address/ Telephone/Fax/E-Mail:</b> Cooperative Agricultural Research Center P.O. Box 519, Mail Stop 2008 Prairie View, TX 77446-0519	<b>Name/Address/Telephone/Fax/E-Mail of person to whom questions concerning this document should be addressed:</b> Alfred L. Parks 936-857-3809Ph; 936-857-2325Fax alparks@pvamu.edu
<b>Executive Summary (200-word description of mission, objectives, benefits to State):</b>  The Cooperative Agricultural Research Center (CARC) is the organizational unit within the College of Agriculture and Human Sciences at Prairie View A&M University, originally established as an agricultural experimental substation in 1947, with assigned administrative and managerial responsibilities for research in the food and agricultural sciences. The Center serves to coordinate research activities in four major areas: Animal Systems, Food Systems, Plant and Environmental Systems, and Socioeconomic and Family Systems. The mission of the Cooperative Agricultural Research Center is to conduct basic and applied research in the Agricultural, food and social sciences to produce research information and technological developments which improve the socio-economic conditions of the clientele it serves in Texas, the nation and the world, with emphasis on the historically underserved, and to participate in and contribute to the University's land-grant mission of teaching, research and service by developing and transferring scientific information, technical competencies, and human capital in the food and agricultural sciences. As the research arm of Prairie View A&M University's College of Agriculture and Human Sciences, the CARC employs over 55 fulltime scientists and support staff. At any given time, CARC scientists are engaged in more than 30 research projects in the areas of agricultural and environmental quality, animal genetics, biocontrol/bioremediation, food quality and safety, alternative and emerging crops, value-added products development, human nutrition/obesity, and technology transfer. The CARC also employs/trains an average of 50 graduate and undergraduate students in these areas. The CARC, through its International Goat Research Center (IGRC), is recognized as a leader in research and technological in goats that make a difference for Texans and the world. The CARC is supported by line-item federal appropriation from the USDA, Competitive grants, Contracts, and through "special item funding" from the State. These funds, which contribute a federal-state partnership are used to provide direct research support that links new science and technological developments directly to the needs and interests of people.	
<b>Director Signature:</b>	<b>Authorized Institutional Representative Signature:</b>
	<b>Title:</b> President
<b>Date:</b> 9-13-06	<b>Date:</b> 9-13-06

Texas Higher Education Coordinating Board  
**2006 Research Assessment Program Self-Study**

Completed Self-Studies are due to the Coordinating Board by September 15, 2006. See page 12 for details.

<p><b>Name of Program:</b> Heart Disease / Stroke Research</p>	<p><b>Director:</b> James T. Willerson, M.D.</p>
<p><b>Name of Institution:</b> The University of Texas Health Science Center at Houston</p>	
<p><b>Program Mailing Address/ Telephone/Fax/E-Mail:</b>  The University of Texas HSC – Houston Office of the President 7000 Fannin Street, Ste. 1707 Houston, Texas 77030 713-500-3010 713-500-3026 (fax) <a href="mailto:James.T.Willerson@uth.tmc.edu">James.T.Willerson@uth.tmc.edu</a></p>	<p><b>Name/Address/Telephone/Fax/E-Mail of Person to whom questions concerning this document should be addressed:</b>  Kevin Dillon, M.B.A., C.P.A. Executive Vice President, Finance &amp; Administration 7000 Fannin Street, Ste. 1732 Houston Texas, 77030 713-500-4952 713-500-3439 (fax) <a href="mailto:Kevin.Dillon@uth.tmc.edu">Kevin.Dillon@uth.tmc.edu</a></p>
<p><b>Executive Summary (200-word description of mission, objectives, benefits to State):</b>  The mission of The University of Texas Health Science Center at Houston (UTHSC-H) is to provide exemplary teaching, research, and service to improve the health of Texas, the nation, and the world. The Heart Disease and Stroke Research Program has the goal of applying the powerful new techniques of genomic and proteomic research to advance understanding of the causes and treatment of major diseases, such as cardiovascular disease and stroke. The leadership of UTHSC-H has used these funds to recruit and retain outstanding scientists, to establish sophisticated research infrastructure and to expand the research capacity of the Brown Foundation Institute of Molecular Medicine. Research supported by this program has led to important new discoveries including the identification of genes involved in cardiovascular diseases such as aortic aneurysms, myocardial infarction and stroke and clinical trials to evaluate the effectiveness of stem cell therapy in the treatment of heart failure in patients with prior myocardial infarction and brain injury in children. The Program is now superbly positioned to translate the knowledge gained through basic research into the development of new therapeutics. The special item funding has been used to build a center of excellence in biomedical research that benefits, and will continue to benefit, the health and welfare of the citizens of Texas.</p>	
<p><b>Director Signature:</b></p>	<p><b>Authorized Institutional Representative Signature:</b></p>
<p><b>Date:</b></p>	<p><b>Title:</b></p> <p><b>Date:</b></p>

**2006 Research Assessment Program Self-Study** RESEARCH GRANTS  
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Completed Self-Studies are due to the Coordinating Board by September 15, 2006. See page 12 for details.

Name of Program: Human Nutrition Research Program	Director: Dr. Chandan Prasad
Name of Institution: Texas Woman's University	
Program Mailing Address/ Telephone/Fax/E-Mail: Department of Nutrition & Food Sciences P.O. Box 425888 Denton, TX 76204 904 898-2636 940 898-2634 CPrasad@twu.edu	Name/Address/Telephone/Fax/E-Mail of Person to whom questions concerning this document should be addressed:  Dr. Jimmy H. Ishee, Dean College of Health Sciences P.O. Box 425527 940 898-2852 940 898-2853 jishee@twu.edu
<p>Executive Summary (200-word description of mission, objectives, benefits to State):</p> <p>The Human Nutrition Research Program has a long and successful history. The mission of the program is to support research on the relationship of nutrition to health and educate health care professionals and the public. It was first funded in 1958 and has been funded biennially since that time. Scientific and medical research continues to establish a strong, direct link between nutrition and health. The Texas Woman's University's Human Nutrition Research Program concentrates on investigating the relationship of food intake to chronic diseases such as cancer, cardiovascular disease, and obesity and on developing nutrition and food safety education materials to promote better health for adults and children. The program also disseminates information about ways in which diet and nutrition promote health and reduce risk of disease to the citizens of Texas. Texas Woman's University has long been in the forefront of conducting research aimed at improving the health of women and other populations. The program was directed by Dr. Carolyn Bednar, Interim Chair of the Department of Nutrition and Food Science until August 1, 2006 when Dr. Chandan Prasad was named Chair of the department. Dr. Prasad came to TWU from the LSU Medical School.</p>	
Director Signature:	Authorized Institutional Representative Signature:
Date: 9-14-06	Title: Date: 9/14/06

Texas Higher Education Coordinating Board  
**2006 Research Assessment Program Self-Study**

Completed Self-Studies are due to the Coordinating Board by September 15, 2006. See page 12 for details.

<p>Name of Program:          Institute for Nobel/National-Academy Biomedical Research</p>	<p>Director:          Alfred G. Gilman, M.D., Ph.D.          Provost and Executive Vice President for Academic Affairs          Nobel Laureate and Member of the National Academy of Sciences</p>
<p>Name of Institution: UT Southwestern Medical Center</p>	
<p>Program Mailing Address/          Telephone/Fax/E-Mail:           UT Southwestern Medical Center          5323 Harry Hines Blvd.          Dallas, TX 75390-9003          Fax: 214-648-8995          Phone: 214-648-2509          ruth.womack@utsouthwestern.edu</p>	<p>Name/Address/Telephone/Fax/E-Mail of Person to whom questions concerning this document should be addressed:          Mary Ellen Weber, Ph.D.          Vice President for Government Affairs and Policy          UT Southwestern Medical Center          5323 Harry Hines Blvd.          Dallas, TX 75390-9122          Fax: 214-648-3084 phone: 214-648-3684          governmentaffairs @utsouthwestern.edu</p>
<p>Executive Summary (200-word description of mission, objectives, benefits to State):</p> <p>The Institute for Nobel and National Academy Biomedical Research began in 2003, predicated on the fact that Texas' success depends on having researchers who rank among the greatest in the world. Investigators of Nobel Prize and National Academy of Science caliber conduct cutting-edge research, bring to Texas many millions in grants, and attract the best and brightest co-workers.</p> <p>When this Institute was first funded, UT Southwestern was home to 13 of the 16 medical National Academy scientists in Texas, and since then 4 of the 6 elected from Texas have also been from UT Southwestern. Furthermore, UT Southwestern is home to 4 Nobel Laureates, more than any other medical school in the world.</p> <p>Special Item funding has been appropriated specifically to:</p> <ul style="list-style-type: none"> <li>- Provide incentives for these highly sought-after scientists to remain in Texas</li> <li>- Bring many millions in outside grants to Texas</li> <li>- Cultivate cutting-edge research and commercializable technologies</li> <li>- Recruit rising-star scientists mentored by these scientists</li> </ul> <p>This funding has paid tremendous dividends for Texas. Since its inception, not one of these sought-after scientists has left. In addition, UT Southwestern's research has experienced double-digit growth, due in large part due to these elite scientists. Furthermore, 23 exceptionally bright, successful, and difficult-to-recruit young scientists have been recruited and supported.</p>	
<p>Director Signature:</p>	<p>Authorized Institutional Representative Signature:</p> <p>Title: <del>Vice President</del> Vice President for Government Affairs and Policy</p>
<p>Date: 9/15/2006</p>	<p>Date: 9/15/2006</p>

TEXAS HIGHER EDUCATION  
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**Texas Higher Education Coordinating Board**  
**2006 Research Assessment Program Self-Study** **RESEARCH GRANTS  
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<p>Name of Program: Institute for Women's Health (formerly known as Center for Research on Women's Health)</p>	<p>Director: Nancy M. DiMarco, Ph.D., R.D., C.S.S.D., L.D.</p>
<p>Name of Institution: Texas Woman's University</p>	
<p>Program Mailing Address/ Telephone/Fax/E-Mail:  PO Box 425876, TWU Station Denton, TX 76204-5876 Phone: (940) 898 2792 Fax: (940) 898 2793 Email: Ndimarco@mail.twu.edu</p>	<p>Name/Address/Telephone/Fax/E-Mail of Person to whom questions concerning this document should be addressed:  Dr. Jimmy H. Ishee, Dean College of Health Sciences P.O. Box 425527 940 898-2852 940 898-2853 jishee@twu.edu</p>
<p>Executive Summary (200-word description of mission, objectives, benefits to State:</p> <p>The Institute for Women's Health (IWH) is advancing the health of Texas women and girls by conducting and supporting research, providing research training opportunities, and disseminating information. A unique feature of the IWH is to promote multidisciplinary research collaborations. The Mission of the IWH is to lead in the development, dissemination, and implementation of knowledge about women's health and well-being through ongoing programs of research, education, and advocacy.</p> <p>Texas has 11 million women and girls. Many lack important health information and health care. Texas Woman's University is taking the lead in educating health care professionals, conducting research, and providing health information to benefit the health of women and girls in the state of Texas.</p> <p>As one of the primary providers of health care professionals in the state of Texas, TWU is uniquely qualified to lead in women's health research and education. The university graduates 300 health care professionals each year with advanced degrees in the fields of nursing, physical therapy, occupational therapy, nutrition, health studies, communication sciences, and kinesiology. The IWH promotes multidisciplinary research on specific aspects of women's health including obesity, osteoporosis, and cardiovascular disease.</p>	
<p>Director Signature:</p>	<p>Authorized Institutional Representative Signature:  Title:</p>
<p>Date: <i>Sept 14, 2006</i></p>	<p>Date: <i>9/14/06</i></p>

Texas Higher Education Coordinating Board  
**2006 Research Assessment Program Self-Study**

Completed Self-Studies are due to the Coordinating Board by September 15, 2006. See page 12 for details.

<b>Name of Program:</b> <b>Department of Experimental Diagnostic Imaging</b>	<b>Director:</b> Juri G. Gelovani, M.D., Ph.D., Professor & Chair
<b>Name of Institution:</b> The University of Texas, M. D. Anderson Cancer Center, Division of Diagnostic Imaging	
<b>Program Mailing Address/ Telephone/Fax/E-Mail:</b>  1515 Holcombe Boulevard, Unit 059 Houston, Texas 77030-4009 [713] 563-9562 (voice) [713] 794-5456 (fax)	<b>Name/Address/Telephone/Fax/E-Mail of Person to whom questions concerning this document should be addressed:</b>  Juri G. Gelovani, M.D., Ph.D. Professor & Chair 1515 Holcombe Boulevard, Unit 059 [713] 563-4875 (voice) [713] 794-5456 (fax) jgelovani@di.MDACC.tmc.edu
<b>Executive Summary (200-word description of mission, objectives, benefits to State):</b>  The mission of the Experimental Diagnostic Imaging Department is to develop a leading national and international multidisciplinary research center with cutting edge collaborative programs in basic, preclinical, and clinical translational research in molecular and cellular imaging of cancer and related diseases. This highly integrated multidisciplinary center uses a bench-to-bedside approach to develop molecular imaging techniques for early detection of cancer, selection of individualized anti-cancer therapies, early assessment and monitoring of therapies and development of techniques to assess long-term prognosis. The center educates students, residents, physicians, researchers, healthcare professionals and the public in molecular and cellular imaging sciences and advanced applications.  The operation of this unique center, once fully developed, will create an estimated 250 jobs in Houston attracting diverse and multi-disciplinary skills from around the country. In addition, numerous positions will be created for visiting scientists, post doctoral fellows and graduate students from around the world. Projects developed by this influx of talent will form the foundation for long-term collaborative relationships in the development of new imaging technologies, imaging tracers and drugs in the fight against cancer. The economic impact of bringing these products to market is difficult to estimate at this early stage in development.	
<b>Director Signature:</b>	<b>Authorized Institutional Representative Signature:</b>  <b>Title:</b>
<b>Date:</b> 9/15/06	<b>Date:</b>

**TEXAS HIGHER EDUCATION  
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**2006 Research Assessment Program Self-Study**

Completed Self-Studies are due to the Coordinating Board by September 15, 2006. See page 12 for details.

<b>Name of Program:</b> Center for Cancer Immunology Research – CCIR	<b>Director:</b> Yong-Jun Liu
<b>Name of Institution:</b> The University of Texas M.D. Anderson Cancer Center	
<b>Program Mailing Address/</b>  7455 Fannin Houston, Texas 77030  <b>Telephone/Fax/E-Mail</b> p: 713/563-3203 fax: 713/563-3276 email: yjliu@mdanderson.org	<b>Name/Address/Telephone/Fax/E-Mail of Person to whom questions concerning this document should be addressed:</b> Yong-Jun Liu Professor & Chair 1515 Holcombe Blvd., Unit 901 Houston, TX 77030 (713) 563-3203 (voice) (713) 563-3275 (fax)
<b>Executive Summary (200-word description of mission, objectives, benefits to State):</b>  <b>CENTER FOR CANCER IMMUNOLOGY RESEARCH (CCIR)</b>  The Center for Cancer Immunology Research focuses on discovering ways to activate a patient's immune system to fight cancer and create immunologic vaccines to prevent the disease. The center, which opened in June 2002 under the direction of Yong-Jun Liu, M.D., Ph.D., chair of the Department of Immunology, is the nation's first comprehensive program in which both basic and clinical immunologists work together in an open laboratory environment to develop immunological treatments for cancer.  <b>CCIR Mission</b> To develop more effective cancer immunotherapies, including cancer vaccines, and to train the next generation of cancer immunologists.  <b>Objectives</b> Research activities of the CCIR will focus on three major basic science programs and two major translational/clinical research programs. The basic science programs are Immune Receptors, DC (dendritic cell) Biology, and T Cell Biology, and the translational/clinical programs are Cancer Immunotherapy and Viral Immunology and Oncology.  <b>Benefits to the State</b> 1. To recruit outstanding faculty and trainees. 2. To establish a top Research Center for Cancer Immunology in the nation. 3. To translate basic science discovery into human clinical trials and therapy for human cancer. 4. To commercialize basic and clinical discoveries.	
<b>Director Signature:</b>  _____	<b>Authorized Institutional Representative Signature:</b>  _____  <b>Title:</b> _____
<b>Date:</b> 9/15/06	<b>Date:</b> _____

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Completed Self-Studies are due to the Coordinating Board by September 15, 2006. See page 12 for details.

Name of Program: <b>Caesar Kleberg Wildlife Research Institute</b>	Director: <b>Fred C. Bryant</b>
Name of Institution: <b>Texas A&amp;M University-Kingsville</b>	
Program Mailing Address/ Telephone/Fax/E-Mail:  <b>700 University Blvd, MSC 218          Kingsville, Texas 78363-8202</b>  <b>361-593-4025 office          361-593-3924 fax</b>	Name/Address/Telephone/Fax/E-Mail of Person to whom questions concerning this document should be addressed:  <b>Fred C. Bryant (Program)          700 University Blvd, MSC 218          Kingsville, Texas 78363          361-593-4025  <a href="mailto:fred.bryant@tamuk.edu">fred.bryant@tamuk.edu</a></b>  <b>Becky Trant (Financial)  <a href="mailto:kabwd00@tamuk.edu">kabwd00@tamuk.edu</a></b>
Executive Summary (200-word description of mission, objectives, benefits to State):  <p><b><i>The mission of the Caesar Kleberg Wildlife Research Institute (CKWRI) is to provide a scientific basis for the conservation and management of wildlife and their habitats in Texas and related environments. We accomplish this mission by (1) conducting science of the highest caliber (2) training and mentoring M.S. and Ph.D. students so they will become productive wildlife and resource management professionals, and (3) making rural and urban citizens aware of the cultural and economic importance of sustaining, conserving and managing wildlife resources.</i></b></p> <p><b><i>Wildlife populations, and the habitat that supports them, are important to both Texas and Texans. Hunting contributes more than 4 billion dollars to the Texas economy, and non-consumptive wildlife activities such as birding and ecotourism are among the fast-growing recreational pursuits in the state. As such, benefits of the wildlife research, education, and outreach activities at CKWRI are enourmous to Texas. We provide our clients, audiences and supporters with cutting-edge, state-of-the-art knowledge that is used to sustain a critical part of Texas heritage and culture. The combination of public and private funding that supports CKWRI is a unique partnership model that provides great value to our state and is held in high esteem by our supporters, colleagues, and peers throughout Texas and the nation.</i></b></p> <p><b><i>As the financial data in IV.3 verifies, the CKWRI has leveraged \$14.70 in FY 2005 and \$17.90 in FY 2006 for every \$1.00 of state funding through the Special Item entitled Wildlife Research Institute. We believe the core funding provided by the state legislature through this Special Item has enabled us to build a world-class wildlife research program. The Special Item funding was yesterday, and remains today, absolutely vital to our continued success</i></b></p>	
Director Signature:	Authorized Institutional Representative Signature:  
Date: <b>Sept. 14, 2006</b>	Title: <b>Oscar Castillo, Interim Vice Pres.</b>  Date: <b>9/14/2006</b>

## Appendix D

### EXTERNAL REVIEW TEAMS

#### **Applied Biology**

Arthur I. Aronson, Ph.D.  
Professor of Biological Sciences  
Purdue University  
West Lafayette, Indiana

Kambiz Pourrezaei, Ph.D.  
Professor  
School of Biomedical Engineering Science  
& Health Systems  
Bossone Research Enterprise Center  
Drexel University  
Philadelphia, Pennsylvania

Tim M. Townes, Ph.D.  
Professor and Chairman  
Department of Biochemistry & Molecular  
Genetics  
The University of Alabama at Birmingham  
Birmingham, Alabama

#### **Agriculture Research**

Pam Hodson, Ph.D.  
Regional Director  
LSU Ag Center Southeast Region Office  
Hammond, Louisiana

Karen Reichel  
Program Coordinator  
Food & Fibers Research Grant Program  
Texas Department of Agriculture  
Austin, Texas

#### **Bio Research**

Stuart A. Aaronson, M.D.  
Professor and Chair, Oncological Services  
Mount Sinai School of Medicine  
New York, New York

Francois Abboud, M.D.  
Edith King Pearson Chair of Cardiovascular  
Research  
Carver College of Medicine  
University of Iowa  
Iowa City, Iowa

Kenneth Berns, M.D., Ph.D.  
Director  
Genetics Institute  
University of Florida  
Gainesville, Florida

#### **Border Health**

Barbara Arrington  
Senior Associate Dean for Academic Affairs  
School of Public Health  
St. Louis University  
St. Louis, Missouri

Dan Reyna  
General Manager, U.S. Section  
U. S.-Mexico Border Health Commission  
Office of Global Health Affairs  
Department of Health & Human Services  
El Paso, Texas

#### **Chihuahuan Desert Research**

John "Jay" Arnone III  
Associate Research Professor  
Desert Research Institute, Division of Earth  
and Ecosystem Sciences  
Reno, Nevada

Raul Valdez, Ph.D.  
Professor  
Dept. of Fishery and Wildlife Sciences  
New Mexico State University  
Las Cruces, New Mexico

#### **Heart Disease and Stroke**

Stuart A. Aaronson, M.D.  
Professor and Chair, Oncological Services  
Mount Sinai School of Medicine  
New York, New York

Francois Abboud, M.D.  
Edith King Pearson Chair of Cardiovascular  
Research  
Carver College of Medicine  
University of Iowa  
Iowa City, Iowa

Kenneth Berns, M.D., Ph.D.  
Director, Genetics Institute  
University of Florida  
Gainesville, Florida

**Human Nutrition**

Barbara Arrington  
Senior Associate Dean for Academic Affairs  
School of Public Health  
St. Louis University  
St. Louis, Missouri

Diane Hatton, RN  
Professor  
Hahn School of Nursing & Health Science  
University of San Diego  
San Diego, California

**Research Support**

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Edith King Pearson Chair of Cardiovascular  
Research  
Carver College of Medicine  
University of Iowa  
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Kenneth Berns, M.D., Ph.D.  
Director  
Genetics Institute  
University of Florida  
Gainesville, Florida

**Wildlife Research**

Pam Hodson, Ph.D.  
Regional Director  
LSU Ag Center Southeast Region Office  
Hammond, Louisiana

Raul Valdez, Ph.D.  
Professor  
Dept. of Fishery and Wildlife Sciences  
New Mexico State University  
Las Cruces, New Mexico

**Women's Health**

Barbara Arrington  
Senior Associate Dean for Academic Affairs  
School of Public Health  
St. Louis University  
St. Louis, Missouri

Diane Hatton, RN  
Professor  
Hahn School of Nursing & Health Science  
University of San Diego  
San Diego, California

**Appendix E**  
Texas Higher Education Coordinating Board  
**Research Assessment Program – 2006**  
**Evaluation Form**

**Program Visited:** \_\_\_\_\_

**Date:** \_\_\_\_\_ **Program Contact Person:** \_\_\_\_\_

**Site Visitors:** \_\_\_\_\_

Chapter 144 of the *Texas Higher Education Code* describes the Research Assessment Program. Under this program, the Texas Higher Education Coordinating Board is charged with reviewing separately-budgeted research programs under a schedule determined by the Legislative Budget Board. The legislation specifies that four aspects of these programs shall be evaluated: intrinsic merit, research performance, potential contribution of the research to the development of knowledge and instruction in advanced and emerging technologies, and the potential contribution to economic development. The following are working definitions of each of these criteria. Because of the heterogenous nature of the programs evaluated under the Research Assessment Program, evaluators may find it necessary to enlarge on these criteria.

**Intrinsic merit** – the importance of the problem to Texas, technical excellence, capabilities of the investigators, quality of facilities.

**Research performance** – the research output of the program as measured by publications, leveraging of funds, new discoveries and other developments.

**Knowledge and instruction in advanced and emerging technologies** – the program's potential to create new knowledge and the integration of the program in the institution's academic program.

**Economic development** – the importance of the program to the economic base of the state, potential for technology transfer, patents and copyrights, human resources development, leveraging.

Evaluators are encouraged to address all aspects of the program being reviewed, but it is requested that these four criteria be specifically addressed in the written comments. In addition, it is requested that a rating be provided for each of these criteria. The following ratings should be used:

- |                  |  |
|------------------|--|
| <b>Very Good</b> | One of the best programs in the nation.  |
| <b>Good</b>      | A quality program that may be of value to the State but not yet of national stature. |
| <b>Fair</b>      | A program that is making positive contributions but could be expected to do better.  |
| <b>Poor</b>      | A program that has serious deficiencies.   |

**Intrinsic Merit****Rating:** \_\_\_\_\_

Questions that may help you address this topic:

1. Does the program have realistic goals and objectives?
2. Have the program's goals and objectives changed since inception? If so, were these changes appropriate and in the best interests of the state?
3. Is the program fulfilling its stated objectives?
4. Is the program responsive to its clients' needs?
5. Is the work being done of high quality?
6. Does the program have a highly-qualified staff?
7. Are the administrative practices of the program appropriate?
8. Is the program well thought of regionally? nationally? internationally?
9. Is a program such as this a good investment for the State?

**Comments of evaluators:**

## Research Performance

Rating: \_\_\_\_\_

Questions that may help you address this topic:

1. Has the program made a substantial contribution to new knowledge?
2. How would you rate the performance of the program regarding publications?
3. How would you rate the performance of the program regarding leveraging of funds?
4. Does the program have a mechanism to ensure that it focuses its efforts on the most relevant research topics?
5. Does the program have a mechanism for actively disseminating the results of its research?

**Comments of evaluators:**

**Knowledge and instruction in advanced and emerging technologies**

**Rating:** \_\_\_\_\_

Questions that may help you address this topic:

1. Does this program focus its efforts on advanced and emerging technologies?
2. Is the program making substantial contributions in this area?
3. Is the program integrated into the academic program of the institution?
  - is the research being done by faculty and students or by professional staff?
  - is the research relevant to the instructional program of the institution and being incorporated into it?
4. Does the program have the potential to contribute to the development of knowledge and instruction in advanced and emerging technologies?

**Comments of evaluators:**

## **Economic development**

**Rating:** \_\_\_\_\_

Questions that may help you address this topic:

1. Are the results of the research program important to the economic development of the state?
2. Does the program have a process for disseminating the results of its research?
3. What evidence is there that the program is contributing to the economic development of the State?
4. Does the program encourage patents, copyrights, and commercialization of its research results?
5. Is there evidence that students from the program transfer the results of the program's research to industry?
6. Does the program have an advisory committee or other mechanism for assessing the needs of the industry or group being served?
7. Is there evidence of industry support?
8. Does the program have the potential to contribute to economic development?

**Comments of evaluators:**

**Other comments you wish to make:**

## Appendix F

### TEXAS HIGHER EDUCATION COORDINATING BOARD ADVISORY COMMITTEE ON RESEARCH PROGRAMS

<p>Norman Hackerman, Ph.D., Chair President Emeritus Rice University 4100 Jackson Avenue, Apt. 417 Austin, TX 78731-6076 512-471-5835 (office) 512-472-5725 (home); FAX 512-471-8696 scardenas@cm.utexas.edu nhackerman@cm.utexas.edu</p>	<p>(2007)*</p>	<p>John McKetta, Ph.D. Professor Emeritus &amp; Joe C. Walter, Jr. Chair Emeritus Department of Chemical Engineering The University of Texas at Austin Austin, TX 78712 512-471-5227; FAX: 512-471-7060 mcketta@che.utexas.edu</p>	<p>(2008)*</p>
<p>Billy E. Welch, Ph.D. Director (retired) Armstrong Laboratory, San Antonio 122 Encino Blanco San Antonio, TX 78232 210-494-9198; FAX: same billywelch@aol.com</p>	<p>(2006)*</p>	<p>Bettie Sue Siler Masters, Ph.D. Welch Foundation Professor of Chemistry The University of Texas HSC at San Antonio 7703 Floyd Curl Drive San Antonio, TX 78284-7760 210-567-6627; FAX: 210-567-6984 masters@uthscsa.edu</p>	<p>(2005)*</p>
<p>C. Rinn Cleavelin, Ph.D. Mgr Devices/Mfg External Research Texas Instruments - SiTD Dallas, TX 75243 214-567-5355; FAX: 972-995-1724 rinc@ti.com</p>	<p>(2008)*</p>	<p>Roberto A. Osegueda, Ph.D. Vice President for Research Office of Research and Sponsored Projects The University of Texas at El Paso Administration Building, Room 209 El Paso, TX 79968-0587 915-747-5457; FAX: 915-747-6474 osegueda@utep.edu</p>	<p>(2007)*</p>
<p>Robert F. Curl, Ph.D. Pitzer-Schlumberger Professor of Natural Science Rice University 211 Space Science and Technology Building Chemistry MS60 Houston, TX 77005 713-348-4816 rfcurl@rice.edu</p>	<p>(2006)*</p>	<p>Max D. Summers, Ph.D. Distinguished Professor Holder, Chair in Agricultural Biotechnology Texas A&amp;M University Minnie Bell Heep Building, Room 324 College Station, TX 77843-2475 979-847-9036; FAX: 979-845-8934 m-summers@tamu.edu</p>	<p>(2007)*</p>
<p>Frank Gerome Galt Medical Corp. 2220 Merritt Drive Garland, TX 75041 214-778-1300; FAX: 214-778-1400 fgerome@galtmedical.com</p>	<p>(2006)*</p>		

\*(year) indicates term expires in December that year

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#### Coordinating Board Research Committee

<p>Ms. Lorraine Perryman, Chair 13 La Paz Circle Odessa, TX 79765 432-561-5099; FAX 432-561-5299 perrymanha@msn.com</p>	<p>Mr. Paul Foster Western Refining Company 6500 Trowbridge Drive El Paso, TX 79905 915-881-0008; FAX: 915-881-0002</p>
<p>Ms. Nancy R. Neal, Vice Chair 4809 19th Street, #16 Lubbock, TX 79407 806-795-0208; FAX 806-795-5888 nancyneal2@aol.com</p>	<p>Mr. Joe B. Hinton c/o Texas Higher Education Coordinating Board 1200 East Anderson Lane Austin, TX 78752 512-427-6101; FAX 512-427-6127 bagh39@aol.com</p>
<p>Ms. Laurie Bricker c/o Texas Higher Education Coordinating Board 1200 East Anderson Lane Austin, TX 78752 512-427-6101; FAX 512-427-6127 lauriebricker@houston.rr.com</p>	<p>Ms. Elaine Mendoza Conceptual MindWorks Inc. 9830 Colonnade Blvd, Suite 377 San Antonio, TX 78230 210-737-0777; FAX 210-737-6677 emendoza@teamcmi.com</p>

Related reports available from the Texas Higher Education Coordinating Board,  
Division of Finance, Campus Planning, and Research:

*Research Experiences for High School Science and Math Teachers –  
Summer 2006, September 2006*

*Research Expenditures, September 1, 2004 – August 31, 2005, July 2006*

*Research Assessment Program – 2004 Final Report, October 2004*

**Related information is also available at these websites:**

<https://www1.thecb.state.tx.us/apps/ResearchExpenditures/>  
<http://www.thecb.state.tx.us/AAR/research/>  
<http://www.arpatp.com/>  
<http://www.researchinTexas.com>

**For information about this program contact:**

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