Project South Texas
Academic Administration Working Groups
FINAL Report

February 14, 2014

Working Group Name	Sponsored Research and Grants and Contracts
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EXECUTIVE SUMMARY AND INTRODUCTION

Framework and Process:

The working group members were encouraged to gather information and develop recommendations that will better position the University of Texas – Rio Grande Valley (**UT-RGV) to become an emerging research university**. The working group had four face-to-face meetings and follow-up input via e-mail in the preparation of this report. The Co-Chairs also had phone conversations to explore various aspects to shape the recommendations outlined here. The discussions within the working group and recommendations in this report are in the context of research defined in a broad sense which includes basic and applied research and other sponsored projects. The focus of other sponsored projects can be to promote student success or promote community engagement and development. Both faculty and staff make important contributions in this broad definition of research and sponsored projects. Any reference, in this report to faculty in the context of research is inclusive of staff who may be engaged in securing external funding and managing projects. In order to better prepare the UT-RGV research administration unit and the research enterprise to support efforts towards this goal there are a few questions that the working group considered. These questions include:

1. What new initiatives have to be in place to support the growth in external research funding?
2. Based on complementary faculty research interests on various campuses, what opportunities for new thematic research clusters exist for trans-disciplinary collaboration?
3. What operational functions and what new services have to be in place to support faculty success in securing external funding and successfully administering these projects?
4. What new services have to be in place to support faculty efforts for research growth, efficiency of the processes, productivity and compliance?
5. How best to incentivize faculty to be actively engaged in research, scholarship and creative activities?

The recommendations below are in three broad categories related to the research enterprise. These include:

1. Implementation of specific actions necessary for research administration so that UT-RGV is ready for operation on day one.
2. A comprehensive infrastructure of research administration services to support faculty and staff in grant seeking and administration of awards.
3. Seize new opportunities based on existing strengths and more importantly where synergies exist.

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1. Specific logistical actions for implementation

There are a number of specific actions that need to be implemented so that no time is lost in the continuation of existing grant awards and the submission of new proposals on both campuses. These are outlined under the section "Required Actions for Implementation – Fall 2015."

Action: Begin the implementation of these specific actions prior to the launch of UT-RGV **4-6 months prior to the Fall of 2015**.

2. Comprehensive research administration support infrastructure

In order to support the growth of the research enterprise so that UT-RGV can be better positioned to become the next emerging research university, it will be necessary to strengthen the research administration infrastructure with appropriate resources so that UT-RGV is ready to support faculty and staff. The following organizational structure will build efficiency, productivity and appropriate support to faculty needed to be successful.

- ***Pre-Award Services***

  It is recommended that in the Office of Sponsored Projects the proposal development services be offered through a team effort in three specific areas that include staff dedicated to ***Research Development*** to identify funding opportunities and connect with individual faculty and more importantly with multi-disciplinary teams of faculty, guide the process to formulate the scope of the proposal, develop an outline for the proposal, a timeline and action items. The ***Proposal Development*** staff as part of this team will then provide the necessary templates for various sections of the proposal, appropriate for the funding agency targeted. Once the final proposal is ready for submission, a few staff members who will be dedicated to ***Proposal Submission*** will do the final check that the proposal meets all of the guidelines required by the sponsor and submit. Such a team approach will build efficiency and productivity in the process and also help develop competitive proposals, thus maximizing the chances for external funding. This will also make the process of proposal development a rewarding experience for faculty and staff.

  It will be necessary to address the workload issues and incentives for faculty to engage in proposal development and research. Thus **internal seed funding** to help generate preliminary data to strengthen the proposals and also **increasing UT System STAR program start-up funding** levels to be competitive in recruiting and retaining talented research faculty will be necessary.

- ***Post-Award Services***

  The post-award administration will also use a team approach. The non-financial and the financial parts of the post award administration within the Office of Research will work together as an integrated team. They will bring representatives from all other departments relevant to the proposal to facilitate the efficient administration of all aspects of the award while complying with all federal requirements.

- ***Technology Transfer Services***

  It is critical that Technology Transfer services be provided to support the legal protection and commercialization of any intellectual property resulting from research. This has implications for the regional economic development. The specifics of services for faculty and students, necessary to maximize the chances of commercialization are outlined under detailed recommendations. This would provide our science and engineering graduates a competitive edge in the job market and also facilitate research collaborations with industry to support regional economic development.

- ***Research Compliance Services***

  Office of Research Compliance (ORC) will focus on federal requirements such as Institutional Review Board (IRB), Institutional Animal Care and Use Committee (IACUC), Responsible Conduct of Research (RCR), Time and Effort Certification and Export Controls. The office will play an important role in ensuring that faculty, staff and students are provided educational programs, and appropriate policies are developed and implemented in support of the research enterprise to meet the state, federal and the university requirements. The Office will provide legal expertise by drafting, negotiating and executing Material Transfer Agreements (MTAs), Nondisclosure agreements (NDAs), Inter-

institutional Agreements (IIAs), Licensing Agreements (LAs) and other industrial contracts as well as federal and state sponsors' agreements consistent with the UT System requirements.

The implementation of these recommendations would need to be in place within the **first 6-months of the new university** by leveraging the existing human capital and also additional staff and resources.

Research expenditures through external awards and technology transfer will have an economic impact on the regional economy by creating new jobs not only at UT-RGV but also secondary jobs through start-ups and other research support services within the region and an additional tax base for the regional communities.

- ***Research Support Services***

A well organized and an integrated infrastructure of other research support services should be in place to allow access to faculty and staff in all colleges and research units on various geographic campus locations. The details are outlined in the recommendations section.

Action: The organization and implementation of these services would require the **first 6-12 months of the new university**.

3. New Opportunities for growth

In addition to a number of recognized research areas on both campuses there also exist a few other unique and complementary strengths, for example **New Materials and Applications Research, Biomedical Engineering and Neuroscience**. It is highly recommended that platforms be put in place to leverage these synergies between these faculty research strengths to create thematic organized research units. These organized research units will play an important role in supporting the growth of the research enterprise to meet the goal for UT-RGV to become an emerging research university. The details are outlined under the section "Innovative Initiatives Not Currently in Place."

Action: Seizing the new opportunities for growth in research would require planning and implementation **within 12-18 months of the new university**.

FINDINGS

Innovative Initiatives Currently in Place

The University of Texas – Pan American

1. **Interdisciplinary Thematic Scholarly Communities** have been launched to bring faculty together each month to explore cross-disciplinary collaborative research opportunities. Five of these communities are actively engaged and two additional subgroups have also started. These communities have supported collaborative teams to submit proposals for external funding. Such faculty scholarly activities create opportunities for students to be engaged in research, and also shape their aspirations for graduate studies or professional degree programs. Thus achieving student retention and successful graduation. One course release time for a faculty member to work with the Office of Research would be desirable to coordinate and engage other faculty on campus in these communities. Extend the **Interdisciplinary Thematic Scholarly Communities** concept at UTPA across all campuses of UT-RGV to encourage trans-disciplinary collaborative research. See details below under Innovative Initiatives Currently in Place.

2. The **new faculty development** program offered by the Faculty Development Office provides for, all new faculty members in their first year a fellow senior faculty mentor within their departments to guide them. This program better prepares new faculty members particularly for research and developing proposals for external funding.

3. **A leadership team** composed of leaders representing various functions critical for pre- and post-award administration meets regularly for communication. The meetings are organized by the Office of Sponsored Projects. This group also meets with Administrative Services Officers and Administrative Support staff from all colleges as a group to address challenges and communicates new processes and procedures. This communication facilitates pre- and post-award grant administration to support faculty efforts.

4. **Internal Seed Funding** – Faculty Research Council (FRC) reviews faculty proposals in response to a call for proposals annually. The call also invites proposals on thematic trans-disciplinary collaborative projects. The trans-disciplinary collaborative proposals encourage faculty from different colleges to collaborate. The FRC ranks proposals and the top ranked proposals are funded by the Office of Research. This funding allows faculty members to provide summer support for students and acquisition of supplies for their research projects. It is highly desirable to increase the size of this funding to support more faculty in collecting preliminary data for their proposal to maximize their chances for securing external funding.

5. **Student Engagement and Experiential Learning Program** – The Office of Undergraduate Research & Service Learning provides students funding to conduct collaborative research with faculty members. This experience helps students gain confidence and better prepares them for graduate school or the pursuit of professional degrees. The office also organizes an Annual Undergraduate Research conference that is held in November to provide students the opportunity to showcase their research and gain experience presenting the work. This program enhances competitiveness of students for graduate or professional school admissions.

6. **Office of Faculty & Research Support** (OFRS) within the Division of Information Technology (IT) offers high-level technical support for researchers and teaching faculty. The OFRS provides technical assistance at a level roughly equivalent to a research assistant, and provides an interface to the IT department where researchers can raise issues at a more strategic level than via the IT help desk. The OFRS assists in identifying cross-disciplinary research infrastructure requirements and advises the IT department of the cyber-infrastructure needs of researchers.

The University of Texas – Brownsville

7. **The Gravitational Wave and Radio Astronomy** core competencies in the Physics department based on a group of faculty has created a strong research focus and the faculty have been successful in seeking external federal funding. There are excellent possibilities of a major collaboration with UTPA physicists.

8. **Imaging capabilities** for biological studies within the College of Biomedicine includes atomic force, confocal and multi-photon microscopes. Our newest system allows performing *in vitro* optogenetics experiments. The facility engages students in research to prepare them for healthcare careers.

9. The university offers a **Bachelor degree program in Biomedical Sciences** (BMED). This will serve as a pipeline of skilled workforce for the research enterprise at the new Medical School as well as students who may pursue an M.D. degree.

10. **Faculty Mentor Program** (BMED only) – This program mentors each student and obtaining high retention rates (33 of 35 students, the first year).

11. **Health Disparities Scholars Program** (RIMI) at UT Brownsville, UTPA has a South Texas Border Health Disparities Center; thus the two groups offer an opportunity for collaborative research.

12. An NIH RISE award is in place to engage students in research and to better prepare them to be competitive for graduate degree programs. The same award also exists at UTPA.

13. A PRIME TIME sub-award for the M.D. program. The same award also exists at UTPA. The curriculum for this program is based on competencies acquired. The program helps students pursue the M.D. programs.

14. **Freshman Research Initiative and Mandatory Tutoring** in high drop/withdraw/fail (DWF) classes. This initiative is built upon research that shows students benefit when they work closely with each other and peer tutors. It consists of study sessions built into the course schedules for the high DWF classes. These core classes – history, composition and math – are followed immediately by their respective tutoring labs.

15. **Student Employment Initiative** (SEI) has allowed UTB students to work at UTB. In many cases the students work in areas related to their careers. Thus, acquiring expertise in their field of interest.

16. **Linked Learning Communities**. The learning community program consists of linking high-risk courses and attaching a tutoring session to each class. It can also consist of a stand-alone course linked to a tutoring session. Tutorial sessions are connected to the class in the system and are generally scheduled the same days the classes meet, offering immediate reinforcement of subject material.

Innovative Initiatives <u>not</u> Currently in Place

Collaborative Research Opportunities and Strategies for Growth:

1. College of Biomedical Sciences at UTB has synergy with the Colleges of Health Sciences and Human Services, Science and Mathematics, and Engineering and Computer Science at UTPA. A collaborative research effort focusing on **medical devices and diagnostics** would be an attractive area not only to educate students in this field, but also to attract research funding in collaboration with the new Medical School and the regional industry. There are number of faculty members on both campuses in various colleges already engaged in research in this area, thus the critical mass for an organized research unit is already in place, and potentially an interdisciplinary research intensive degree program in **Biomedical Engineering** could be developed through existing core competencies and resources through a collaborative effort between various colleges. This will increase external funding and create platforms for student engagement in research, retention and graduation success while supporting UT-RGV to become an emerging research university.

2. At UTPA there are 15 faculty members in various colleges working on one or another aspect of New Materials with access to a large number of sophisticated research instrumentation acquired through external funding. Several faculty members at UTB are also engaged in Materials research, Nanoscience and Nanotechnology with external funding. This presents a unique opportunity to create a Research Center Focused on **Interdisciplinary New Materials and Applications Research** and potentially collaborative M.S. and/or doctoral degree programs between various colleges. This would develop a new work force for the regional industry including the medical device industry. There will also be synergy between this area of focus and the Biomedical Engineering research mentioned above. Such an **organized research unit** will be able to attract research funding for the UT-RGV. This cluster of faculty with centralized Materials Research Laboratory and Clean Room Facility can also engage in collaborative research with industry within the region to support the regional economy through a competitive advantage based on access to the UT-RGV's sophisticated research instrumentation and faculty expertise. This will also increase external funding, and create platforms for student engagement in research, retention and graduation success while supporting UT-RGV to become an emerging research university.

3. There are 4 faculty members performing neuroscience research within the college of Biomedical Sciences and several faculty from other colleges collaborating with them. There are also a dozen faculty members at UTPA in different colleges that are involved in one or another aspect of **Neuroscience research**. The potential exists to integrate these complementary research efforts on both campuses and to engage these faculty members in an **Organized Research Unit**. This will be aligned with the national priority on Brian Research Through Advancing Innovative Neurotechnologies (BRAIN) and also the DoD's interest in neuroscience. This can potentially attract

research funding and also a potential area to engage the faculty at the Medical School in this trans-disciplinary collaborative research.

4. There are a number of faculty members both at UTPA and UTB including the new valley STAR faculty hires that are actively engaged in research in the area of **Energy and Environment.** With access to the Gulf a unique opportunity exits to create a cluster of research faculty through multi-disciplinary collaborative platform to address the big picture Energy and Environmental concerns critical to the region. This will increase external funding and create platforms for student engagement in research, retention and graduation success while supporting UT-RGV to become an emerging research university.

5. A concerted effort needs to be made to create platforms for **trans-disciplinary scholarly collaborations for faculty in the Arts and Humanities with Computer Science, Social Sciences, and Music, Mathematics and Computer Science** for enriching human experiences and for therapeutic needs in the healthcare area, and also in the context of bi-cultural, bi-lingual and bi-literate teaching and learning experiences for students. Such an initiative will create a unique distinction for UT-RGV in the Arts and Humanities and a competitive advantage for our graduates.

6. **Research Collaboration with the Medical School** - It is critical that we create platforms for interdisciplinary collaborations between faculty members at the **Medical School and the main academic campuses**. This can be facilitated through monthly joint seminar programs and an annual collaborative team meeting for future planning. A joint organizing committee can schedule **external speakers' series** to keep the research momentum moving forward in thematic areas and also to build potential external collaborations for research. Such activities will strengthen collaborative research between faculty at the Medical School and the main campus by taking advantage of existing core competencies.

7. **CyberInfrastructure Collaborative Platform** - Since the UT-RGV will be leveraging talent from multiple campus locations; it is critical that a **robust cyberinfrstructure** (hardware – existing UT System supercomputing access, software and support staff) be in-place. It will support research administration, communication, and research collaborations among the faculty, staff and students at multiple campus locations within the region to engage diverse core research groups. This would allow students to gain the 21st century educational experience through such an infrastructure for teaching/learning, research, scholarship and creative activities. This would be consistent with the guiding principles. It is recommended that a **committee be appointed** to assess the needs in this context and how we can leverage such an infrastructure (supercomputing capability) to **create a distinction for the UT-RGV**. Such a platform will create opportunities to **support cross border research and scholarly collaborations – with Central and South American** institutions of higher education and it will offer a global reach for the university. This platform will also create an opportunity for unique teaching and learning delivery modes, where **multiple campuses can be linked synchronously for a given course at the same time**. Perhaps such a course can be creatively taught by a team of two faculty from two different campuses for delivery to more than two campuses. UC San Diego can serve as a model for exploring the cyberinfrastructure initiative.

The above seven proposed platforms are designed to take advantage of the critical mass (and existing strengths) that already exists. It will promote and support a culture of research and scholarship and create an environment for enriching teaching and learning experiences for students to support student retention and success. More importantly these initiatives will position UT-RGV for distinction among higher education institutions and a destination for unique teaching and learning platforms, and research and scholarship, especially among the Hispanic Serving Institution in the U.S.

RECOMMENDATIONS

Key Recommendations for the Final Report

Infrastructure to Support the Research Enterprise:

To better position the UT-RGV to become an **Emerging Research University** and consistent with the guiding principles, the Office of Research needs to be structured such that it provides the services to faculty members and staff to be successful in seeking external funding, and the technology transfer and commercialization of the intellectual property created based on the research efforts while remaining compliant with the state, the university and federal requirements. The following critical services should be in place within the Office of Research in an integrated fashion to facilitate the faculty research efforts.

1. **Sponsored Projects Services**

Pre-award Services

- **Research Development Services** – The Research Development staff will focus on identifying funding opportunities and bringing them to the attention of the appropriate faculty and colleges and form teams to pursue these opportunities. The staff will work with teams and guide them on various aspects such as project strategy, research design, fit with the agency call, and clarity and readability of the proposal to help develop competitive proposals. The Research Development staff will include grant writers to facilitate these efforts. The staff will assist multi-investigator large teams in formulating the scope and structure of the large proposals prior to the writing stage. The staff will plan meetings, develop timelines and action plans and outlining the structure of the proposal for the multi-investigator teams to work on the multidisciplinary, multimillion dollars and multi-year large proposals. Such a model has been successfully implemented at UC Santa Barbara and also at Arizona State University. This model will help catalyze the growth of external funding. At the University of Texas – Brownsville (UTB) this "research development" work is currently being carried out by the Development Research Associates (DRAs) in the Department of Institutional Grant Writers within the Division of Research. The number of Research Development staff required to assist faculty will depend largely on the number of faculty engaged in submitting grant applications on a regular basis. As UTB and University of Texas Pan American (UTPA) services are consolidated initially **four Research Development staff** will play an important role in supporting both UTB and UTPA faculty engaged in research.

- **Pre-award Proposal Development Services** – The Research Development staff after the proposal formative stage will engage the Proposal Development staff to guide faculty on developing full proposals by providing templates for appropriate generic sections of the proposals such as institutional profile, goal setting, project design, evaluation plan, data management plan, intellectual merit and the broader impact statements, standard budget development and the narrative budget justification. This will make the process of proposal development easier for faculty and they can focus on the technical details of the proposal. The Proposal Development staff will offer these services for individual faculty proposals as well. This efficiency will allow faculty to submit multiple proposals, thereby increasing the external funding for the institution. The pre-award services will require **five staff members** to support UTB and UTPA. **Three staff members will be designated for proposal development and finalization of the proposal packages** including preparing the necessary required forms for the funding agencies and **two staff members will be assigned the sole responsibility for submission** of the final proposals. This would allow the Research Development staff to formulate the proposal scopes, goals, building the teams, outline the critical tasks for the proposed project, and timeliness. The proposal development staff will help support the development of full proposal package with appropriate budget in the required format and comply with

other requirements consistent with the call for proposals by the agencies. Thus such a coordinated team effort will enhance the competitiveness of the proposals submitted and increased external funding. It is important that the proposal development staff be generalists and be familiar with a broad spectrum of funding agencies. Thus DRAs and pre-award proposal development staff must develop deep knowledge and broad array of different competencies including knowledge and experience with all aspects of the proposal development to support all proposals. Such capability also addresses the workload fluctuations or staff on leave and therefore meeting the deadlines. The degree of team support needed for a given proposal will depend upon the complexity of the proposal, and the PIs experience level with proposal development process.

- **Resubmissions** - It is critical that we offer services to **guide faculty in the resubmission of the proposals.** The proposal development staff can also guide PIs on appropriately revising their proposals based on reviewers' comments. The staff will have to attend specialized training programs so that they are better prepared to guide PIs. It is critical that some of the staff also have technical background in science or engineering. This service will play an important role in increasing the external funding for the institution.

Post-award Services

- Upon receiving the award notification the non-financial and the financial part of the post-award staff will prepare the appropriate documentation, and bring appropriate members from various relevant departments to the team for award administration. This team will support the award through the life of the award. The post-award staff will also focus on all sub-awards coming in and going out. The Financial part of the post-award administration staff will set-up the account, monitor and approve expenditures to ensure they are compliant with the sponsor's requirements, file financial reports with the funding agencies and draw down funding from the funding agencies based on invoices or invoice sponsors in accordance with the agreement. The **financial and non-financial post-award administration staff within the Office of Research will work together as an integrated team**, and on a quarterly basis review accounts with PIs that require attention, and will generate quarterly reports on institutional research expenditures. Quarterly reviews of these expenditures and accounts by an integrated non-financial and the financial part of the post-award team will provide proactive status of expenditures to meet the institutional annual expenditure targets as required by the Texas Higher Education Coordinating Board. For the post-award administration the **non-financial post-award services** will initially **require 4 staff** members, and the **financial post-award** part of the team will require **10 staff** members to support UTB, UTPA and other campuses at UT-RGV.

- **Project Management** - It is desirable to include experienced staff for project management for large institutional multi-million dollars, multiyear and potentially multi-institutional awards to allow PIs to concentrate on the research efforts and let the Project Managers manage the project globally. The Project Managers will take care of the logistical aspects of the large awards to ensure that the entire team and any sub-teams are delivering on the goals as promised and address any issues that may arise that could potentially hamper progress. This concept is very similar to the role of professional Project Managers in corporations for large projects. Often times the sponsors will allow the cost of a Project Director/Project Manager for these large projects. This will ensure successful administration of these awards and credibility with sponsors and more importantly growth in the external funding. Initially **two Project Managers** will be needed. Implementation of project management software for large awards may also be a viable option to consider.

2. Research Compliance Services

- **Office of Research Compliance** (ORC) will focus on federal requirements such as Institutional Review Board (IRB), Institutional Animal Care and Use Committee (IACUC), Responsible Conduct of Research

(RCR), Time and Effort Certification and Export Controls. The office will play an important role in ensuring that faculty, staff and students are provided educational programs, and appropriate policies are developed and implemented in support of the research enterprise to meet the state, federal and the university requirements. The Office will provide legal expertise by drafting, negotiating and executing Material Transfer Agreements (MTAs), Nondisclosure agreements (NDAs), Inter-institutional Agreements (IIAs), Licensing Agreements (LAs) and other industrial contracts as well as federal and state sponsors' agreements consistent with the UT System requirements. **Research Compliance** as described above will require **five staff members** to support UTB and UTPA.

- **Safety** – Since safety has important implications for the research enterprise, it is critical that the safety services be linked with the research enterprise to support the safety of all operations and workers.

3. Technology Transfer Services

- **Technology Transfer and Faculty** – For a growing research enterprise it is important to establish and strengthen the technology transfer services on campus for faculty and students. The services must include education about the process, evaluation of invention disclosures, protection of the IP, conducting the market research, marketing the IP and eventually commercializing IP and also facilitating start-ups. To accelerate start-up activity and also to maximize the licensing potential of IP it is critical that an "**Idea and Technology Commercialization Collaboratory**" (ITC^2) be established. This collaboratory will serve as an incubator that involves an annual boot camp for faculty and students to learn about the technology commercialization essentials. One track of this collaboratory will focus on research efforts underway by PIs with a goal to educate PIs on taking into consideration some of the critical questions asked at the IP evaluation and marketing stages to maximize the chances for commercialization through licensing. The second track would help PIs to better position the new IP for commercialization through start-ups. Those interested in start-ups can be awarded **Technology Commercialization Fellowship** during the summer with guidance and mentorship in the collaboratory to conduct technical feasibility, market research and develop a business plan to better prepare entrepreneurs for successful launch of companies. The target would be to seek investment funding through the UT Horizon Fund and other sources. Such efforts will support the regional economic growth and job creation.

- **Technology Transfer and Students** – A majority of the Science and Engineering majors upon graduation end up working in for-profit businesses. They are then engaged in creating new IP for their employers, yet they are never educated on what it takes to commercialize technology. The Office of Technology Transfer can play an important role in offering a non-credit workshop through the **Collaboratory mentioned above for senior design undergraduate students in Engineering and graduate students in Science**. This program will better prepare students to address the ultimate goals of their research in the context of commercialization. Upon completion of the program they will be better prepared for the competitive corporate job markets. An excellent understanding of the technical issues and also the business issues will serve to be a competitive combination for our graduates. It will create a distinction for them and thereby more opportunities for career advancement compared to those who have not gone through such programs. Graduates of this program can also be hired under work study to work in the Office of Technology Transfer to gain additional experience and also help the office. These efforts will support student success and regional economic growth. **Office of Technology Transfer** will require **two staff** members, a Director and a Licensing Associate to support UTB and UTPA.

4. Research Support Services

- **Coordination Between Campuses** – Communication and coordination of efforts within the Office of Research between campuses will be critical. This includes software compatibility, standard Handbook of Operating (HOP) policies and procedures for all aspects of the research administration, coordination of

research events, effective communication channel for staff for consistency of the operation, integration of the IRBs and IACUCs, Biosafety programs, RCR training and forums for constant exchange of ideas by faculty.

- An administrative assistant to support the above offices (OSP - Pre and post-award, OTT, RC, Safety) will be highly desirable for the efficiency of operation. In addition to the above staff members, appropriate directors/managers with relevant experience to supervise, guide, mentor and coach staff for the respective offices will be necessary for effective operation to support faculty, students and staff.

- The Office of Research will need one Administrative Coordinator for coordination of the activities within all functional units of the Office of Research, and a Financial Analyst to track and support the budgetary aspects of the operation of the research enterprise. The above proposed staff in all functional units will be serving over a thousand faculty members and about thirty thousand students at UT-RGV.

- One administrative staff member in the Office of Research will be required to support and coordinate the activities of the Centers and the shared thematic research facilities on both campuses.

- **Shared Research Facilities/Services** – To support the growth of the research enterprise, it is critical that the UT-RGV establishes an environment that supports cross-disciplinary collaborative research efforts on campus. This can be supported through having key thematic shared facilities established at appropriate campuses. Any facility that serves the entire university research community such as key centers, Animal Research Facility etc. can be brought under an umbrella that allows access to the entire campus research community to these facilities. An appropriate faculty member with relevant experience at an appropriate campus can serve as the Director of the facility to manage the growth of the facility, seek external funding, and market the services to the private sector for a fee. The director will be responsible for the functional and the financial part of the shared facility. Faculty on campus can be building the cost of access to services in their respective proposals. The cost recovered from these services can support the expenses for the operation of the shared facility. This is a typical model on research intensive campuses. Such facilities will also enable UT-RGV to build relationships with regional and national companies based on access to expertise and research capabilities.

- **Research Instrumentation Maintenance Certificate Program** – UTPA has a very experienced research instrumentation specialist. He has been instrumental in maintaining and repairing a large number of instruments both at UTPA and at Edinburg Regional Academic Health Center (ERAHC). People with such skills and experience are very rare and are in demand. It is recommended that this individual's experience be multiplied. Under the umbrella of shared research instrumentation facilities this individual can engage our students in science and engineering, including students enrolled in degree programs in Biomedical Sciences and Biomedical Engineering for a training program such that these graduates can then be part of the skilled workforce. This training program can be extended to the private sector industrial and academic clients as a specialized intensive 5-day training program on various instruments. This can also be source of revenue to support the shared facilities operation. Such intensive training programs typically charge $2,000 to $3,000 registration fee for each training session.

- **Other Shared Research Infrastructure Funding –** Sometimes items required by departments or projects are prohibitively expensive unless economies of scale are taken advantage of, such as acquiring a site license for an item of widely-applicable software, or having a training company give a class on campus to a sufficiently large audience rather than to smaller numbers at their training location which would require travel and lodging for all participating attendees. In many cases these cross-disciplinary initiatives simply never happen because there is no central organization or funding to support them, and the cost for one department to fund it themselves is prohibitive. It is proposed that a body unaffiliated to any specific school or college could manage funds specifically set aside for cross-discipline/cross-departmental

infrastructure requests, and that the said committee be the arbiter of which requests are of sufficient merit to be worth pursuing for the whole university and which should be more appropriately handled by the requester's own department or research project funds.

- **Medical School** - Plans must be developed to extend the research administration services to the new Medical School and the Institute for Diabetes and Obesity.

- **Coordination with the Academic Affairs Division**– Particularly important will be the hiring of highly competitive faculty dedicated to lead and develop areas of expertise critically important for the region and the nation.

- **Research Administration Software** - The UT-RGV will also have to consider the integration of all software packages licensed for the research administration on both campuses to allow faculty and staff a standardized interface and also savings in license subscriptions. The following software packages are used for Research Administration and training on one or both of the campuses?

a. Cayuse
b. PIVOT
c. CITI Group – IRB Training
d. CITI Group IACUC
e. Export Control
f. CITI Group - Responsible Conduct of Research
g. ECRT (Huron) for time and effort certification
h. Other Pre- and Post-award Administration software

Consolidation in software subscription may result in $$$ savings?

- **Faculty and Staff Training** - To support the growth of the external research funding it is critical that faculty members, on an ongoing basis be offered training on various aspects of the proposal development and successful administration of the awards. Such training programs do exist at UTPA, however, to implement these programs across Rio Grande Valley to all UT-RGV faculty and staff at all locations, a webinar format should be considered for implementation to reach out to faculty and staff on diverse campus locations.

- Colleges should implement a Faculty Mentoring Program for all campuses at UT-RGV to support junior faculty success in securing external research funding and successful administration of these awards.

5. Additional Resources

- **Internal Seed Funding** - The UT-RGV in addition to the core disciplines will have to create mechanisms to encourage trans-disciplinary research, scholarship and creative activities collaborations beyond the boundaries of the colleges. It is recommended that a source of internal seed funding be created to **solicit trans-disciplinary proposals from faculty members in selected thematic areas** that are targeted to specific big picture challenges in the context of the Rio Grande Valley through multidisciplinary collaborative teams and on topics that have the high potential for external funding.

- To sustain the growth of the research enterprise in strategic disciplines for distinction at UT-RGV, it will be critical to **increase the UT System STAR program start-up funding levels** to be competitive in recruiting and retaining talented research faculty. Depending upon the discipline in science and engineering some of the start-up funding is typically in the range of $500K per faculty member with the expectation to bring in return multi-million dollar grants. Such a program will catalyze the research growth.

- Since new faculty members who receive start-up funding may not be familiar with the business processes at the university, the Deans' offices could help facilitate orientation for the new faculty on how they may

best plan the expenditures of their start-up funding. The faculty development program for first year faculty may also be able to offer a targeted session for these faculty members and introduce them to appropriate representatives from Business Services.

- Graduate students play a critical role in conducting research with faculty mentors, thus financial support for graduate students in the form of Teaching Assistantships and/or Research Assistantships and possibly some tuition assistance would be critical to recruit students, and to advance the research activities by faculty forward.

- **Creating Trans-disciplinary Collaborative Teams** - Organize a **day-long research conference** to bring research faculty from all campuses (including Edinburg Regional Academic Health Center (ERAHC)) to present their research with the expectation to identify complementary research expertise for collaboration between faculty members from all campuses. At the same conference invite selected external speakers from strategic research areas to facilitate discussion in strategic thematic areas. These thematic areas can become a focus for multi-disciplinary, multi-million dollar and multi-year proposals for the UT-RGV. Additional financial support will be needed to execute this initiative.

- The group suggested that **faculty workload** reduction and an incentive system for those successfully securing external funding for research be considered at UT-RGV.

Required Actions for Implementation – Fall 2015

The items below in various categories are to be implemented for the Research Enterprise to be operational on day one at UT-RGV.

Pre-Award Administration

1. Set up new accounts with various agencies and Grants.gov for proposal submission.
2. New DUNS Number for UT-RGV
3. New Employer Identification Number (EIN)
4. New Federal Interagency Committee on Education Number (FICE)
5. New Sam.gov account
6. New NSF Awardee organization code
7. New Cayuse account
8. New Fastlane Account
9. New NIH Account (eRA Commons)
10. New integrated Office of Research Website?
11. New Pivot Account?
12. New SPIN Account?
13. New PI account affiliations in Fastlane, eRA commons, USDA, HRSA.
14. New DHHS Animal Welfare Assurance Number – A consolidated IACUC to serve all campuses will need to be created.
15. New DHHS Federal-Wide Assurance Number for Human Subjects – A consolidated IRB to serve faculty and students at all campuses at UT-RGV will need to be created.
16. New HSI Eligibility Letter from US Dept. of Education? Reapplication will be required. Consolidation of institutional information in IPEDS.
17. Transfer all existing awards from various funding agencies to UTB and UTPA to the UT-RGV.
18. New Commercial and Government Entity Code (CAGE) number?
19. Indirect cost (IDC) recovery rate after unification. UTPA's new IDC rate – 45.3% (Modified Total Direct Cost) (renewed Effective Sept 2013). UTB's IDC rate – 50% (Salary and Wages) (renewed June 2013). Develop a strategy

to use one rate or two separate rates based on where the work is conducted, but it requires consultation with the DHHS and their approval through an accounting firm that originally negotiated the rate.

20. IDC Distribution formula at the two campuses is different, some standardization will be necessary?
21. Integration and standardization of policies and procedures related to research administration will be necessary for consistent compliance with UT-RGV policies and State and federal requirements.
22. Consolidation/Integration of OSP, Tech Transfer and Research Compliance services for campuses.
23. Consolidation of Grant Writers on all campuses will help support the largest number of faculty and create an opportunity for a consistent service to grow the research enterprise.
24. Consolidate software packages used for Research Administration and training on all campuses?
    a. Cayuse
    b. PIVOT
    c. CITI Group – IRB Training
    d. CITI Group IACUC
    e. ECRT
    f. Export Control
    g. CITI Group - Responsible Conduct of Research
    h. Other Pre- and Post-award Administration software

Consolidation of software subscriptions can potentially result in $$$ savings?

Post-Award Administration

25. Post award functions – who, what, where, how and when – roles/processes and the infrastructure to support it needs to be defined.
26. Grants & Contracts – An integrated team approach for the non-financial and the financial services of the post-award efforts for all campuses will create a unified approach and also leverage expertise synergies between the staff on the non-financial and financial sides of the post award administration.
27. Establish a process for setting up new grant accounts through an integrated team for the non-financial and the financial part of the services
28. Decide on financial report filing, invoicing and cash draw down responsibilities for all grants regardless of the geographic campus location. Who does what? Establish a consistent process for all campuses and implement.
29. Establish a tracking system for research expenditures on quarterly basis?
30. Grants and Contracts – Establish a process for the financial part of the post-award administration? Where does this office reside to support the growth of the emerging research university status for UT-RGV?

Research Compliance – Some integration would be needed, a strategy would need to be developed on how the following services will be delivered under UT-RGV.

1. Time and Effort certification.
2. Responsible conduct of research.
3. IRB services, decide on consolidating the IRB and seek new Federal Wide Assurance number?
4. Consolidation of IACUC services for all campuses.
5. Consolidation of IRBC function on all campuses.
6. Consolidation of safety training and policy implementation services.
7. Consolidation of Export Controls training and implementation services.
8. Who reviews legal agreements for grants, TT, IIA, MTA and NDA's etc.?
9. Who signs off on these agreements as an institutional representative?

Technology Transfer Services

1. It is critical to create a platform of services related to technology transfer for all campuses for training, filing invention disclosure, IP assessment, legal protection and marketing, including facilitating start-up activities. A centralized service platform will be the most effective approach.

Possible Consultations

Campuses identified for best practices for the Office of Research services for growth of the research enterprise include, the Arizona State University, UC Davis, UC Santa Barbara and UT Austin. Members of the group were encouraged to study the Office of Research Services of these campuses.

1. It appears that Arizona State and UC Santa Barbara (no Medical Schools) use the Research Development services (under different names) as proposed above. The office plays an important role in training and developing multi-disciplinary teams for large institutional proposals.
2. University of Michigan (with Medical School), UT Austin (no Medical School at this point) and Florida Atlantic (with a new Medical School) use the model of integrated post-award administration services within the Office of Research.
3. Arizona State University uses the Project Managers' model for large institutional (including multi-institutional awards). I would expect that other campuses listed above also use this model, but it is not apparent from their websites. For these Project Manager positions we would have to consider hiring staff with industrial experience in large corporations managing multidisciplinary teams or people with such a background in academia with a similar role.
4. UT Austin has an excellent undergraduate research program that serves several hundred students and has been successfully incorporated into the academic programs in various colleges. It would be helpful to visit with them and learn what works best for them.

Appendices

The University of Texas – Pan American

1. **Office of Research** within the Division of Academic Affairs is responsible for the research administration services and oversight of the research enterprise on campus related to pre- and non-financial post-award administration, training, developing appropriate policies and implementation of policies related to all aspects including research compliance and legal agreements related to the research enterprise. The Office of Research manages the research enterprise through three offices that includes the Office of Sponsored Projects, Office of Research Compliance and the Office of Technology Transfer. The financial part of the post-award administration is managed by the Office of Grants and Contracts that resides within the Division of Business Affairs. The Office of Research organization chart is shown below. Twenty Centers on campus reside in their respective colleges with a reporting line to the Office of Research in addition to their respective Deans.

2. The Office of Research has a broad spectrum of **training programs for faculty** and staff. These include collaborative programs with the Office of Faculty Development for new faculty, and 24/7 access to online workshops and face-to-face sessions related to pre- and post-award research administration, Responsible Conduct of Research, Export Controls, Technology Transfer, Time and Effort Reporting, Human Subject Protection, Institutional Animal Care and Use and various other relevant topics throughout the academic year. The Office of Research quarterly newsletter is leveraged to educate faculty on various research related topics in a brief and concise manner as well as news items related to all aspects of research administration. These programs are designed to better prepare faculty members for proposal development and post-award administration.

3. **Office of Sponsored Projects** (OSP) within the Office of Research works with faculty to identify and communicate funding opportunities, help support the development of proposals, budget preparation and review of the final proposal for compliance with the funding agency requirements and final submission to the funding agencies. The office focusses on all pre- and non-financial post-award services, including negotiations with funding agencies. During FY13, two pre-award staff members supported the submission of 207 proposals and two post-award staff members supported 126 awards, which includes setting up awards, sub-awards, budget reallocations; follow up with PIs on report filing with agencies, no-cost extension requests, communication and working with the Office of Grants & Contracts in Business Affairs related to all other post-award support. During FY13, UTPA received $29.3 million in awards.

4. **Office of Grants and Contracts** under Business Affairs supports the financial part of the post-award administration for over 300 active awards, setting up and funding the award/project, filing financial reports with funding agencies, invoicing and collections, drawdowns, managing cost sharing accounts, and managing grant related audits e.g. A-133. The Office is also responsible for setting up non-sponsored restricted gifts and endowment distributions from the Foundation/Advancement Office, review and approve cost transfers, review expenses for allowability and allocability, and review Memorandum of Employment (MOEs) and staff requisitions for grant funded positions. Grants and Contracts also provides the Annual Financial Report (AFR) schedules for all restricted funds. Currently six staff members and a director support these active awards.

5. **Office of Technology Transfer** (OTT) within the Office of Research provides IP commercialization services. All invention disclosures are evaluated and decisions are made to take it to the next level of legal protection followed by commercialization. One successful start-up has been launched so far; two more are in the preparation stage. Several patents have also been licensed to businesses. Educational programs for students on Technology Transfer and Business start-up are offered by the Office of Technology Transfer. The director moved to another UT campus and the position has been vacant, but the support is currently provided by the Vice Provost and one half time staff member. During FY13, 10 invention disclosures were filed with OTT and evaluated, and 7 patent applications were filed.

6. **Office of Research Compliance** (ORC) within the Office of Research provides legal expertise for drafting, negotiating and executing MTAs, NDAs, IIA, Licensing Agreements and other industrial contracts as well as federal and state sponsors' agreements.

7. ORC also has oversight for all compliance related services for processing IRB applications, (during FY13, 136 IRB protocols were processed), Export Controls, Responsible Conduct of Research, Time and Effort Certification (for 201 active multiyear grants for 222 PIs during FY13), and the Institutional Animal Care and Use Committee. The office ensures that faculty members are educated through workshops on various compliance requirements and also implements compliance policies to meet all federal requirements. Per federal requirements, students are also educated by the office where appropriate. The Office of Research Compliance activities are supported by two staff members and a Manager.

The University of Texas – Brownsville

8. **The Division of Research** at the University of Texas at Brownsville includes the Office of the Vice President of Research. The office provides oversight, expertise, and guidance for all research activities throughout the University. The Office of Research organization chart is shown below.

9. The **Office of Sponsored Programs**. The office offers pre- and non-financial post-award support to faculty. Notice that parts of Grants & Contracts function reside within the Office of Sponsored Projects which serves as a central resource for sponsored awards during pre- and post-award service. The Office of Sponsored Projects during FY13 submitted 96 proposals resulting in 45 awards for $15.1 million. This was supported by two full time staff.

10. The **Development Research Associates** assist in the submission of competitive grant applications and aligns funding opportunities with subject matter expert researchers.

11. The **office of Research Integrity and Compliance** serves the research community by promoting and encouraging ethical research.

12. The management of **technology transfer** initiative is now in collaboration with the division of Institutional Advancements. Previously technology transfer efforts were supported and managed by the South Texas Technology Management (STTM) office in San Antonio.

Organization charts for the Offices of Research at UTB and at UTPA and the Office of Grants and Contracts at UTPA are included below as a reference point.

The following table outlines activities in various categories for FY13 and Year-to-Date data related to the patent portfolio.

Offices of Research Activities - FY13

Category	UTPA	UTB
Number of proposals submitted	207	96
Number of awards received	126	45
Total Dollar Awards	$29.3 Million	$15.1 Million
IRB applications/protocols	141	80
Face-to-face training sessions – All service areas	27 This does not include online 24/7 access training sessions offered	8 (OSP only) This does not include online 24/7 access training sessions offered
Number of agreements executed	164	29
Research related Export Controls requests	17 individuals – FY13 fiscal year	275 for the 2013 calendar year individuals (all campus not just research)
Institutional Animal Care and Use protocols	4	5
Number of invention disclosures	10	1
Number of patent prosecutions	7	-
All active patent prosecutions - YTD	35	-
Total number of patents awarded - YTD	7	-
Number of licenses executed - YTD	5	-

Project South Texas
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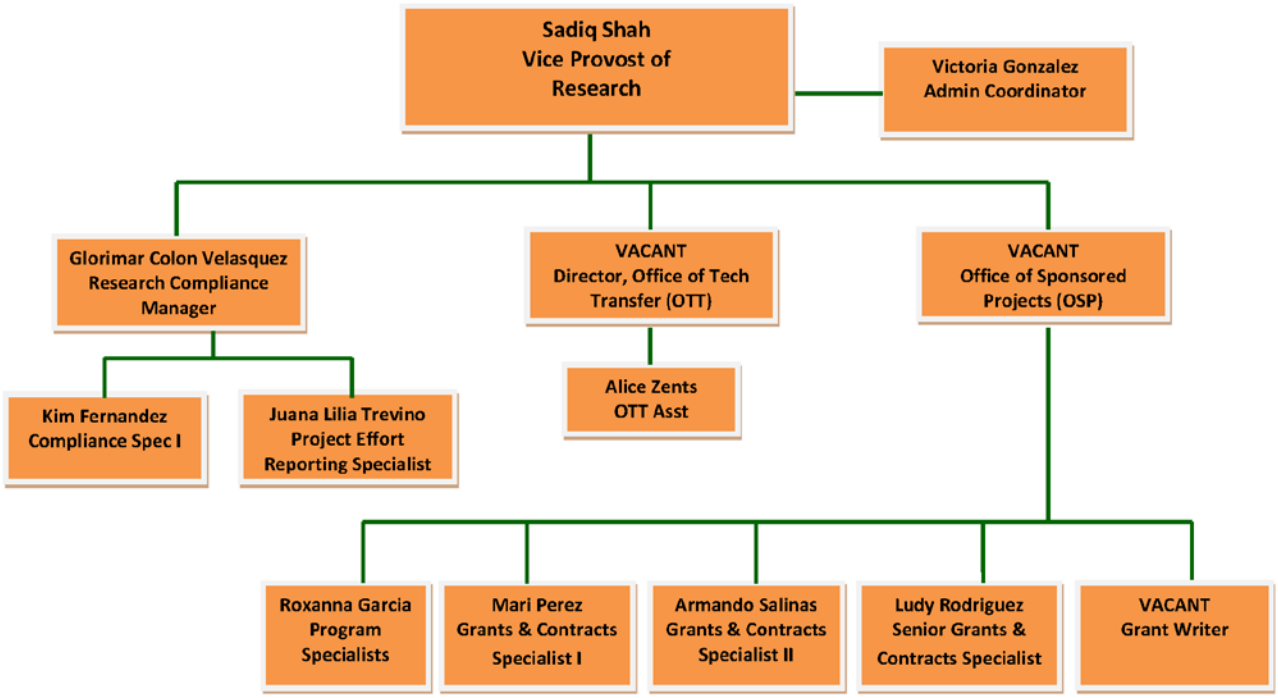
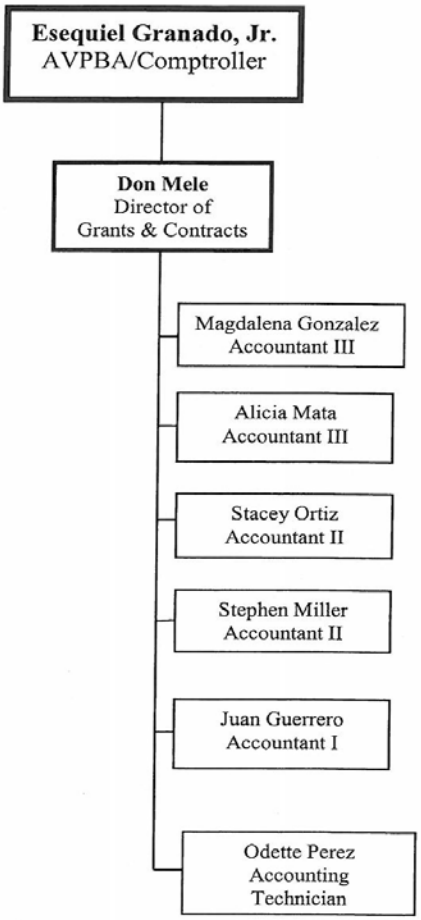
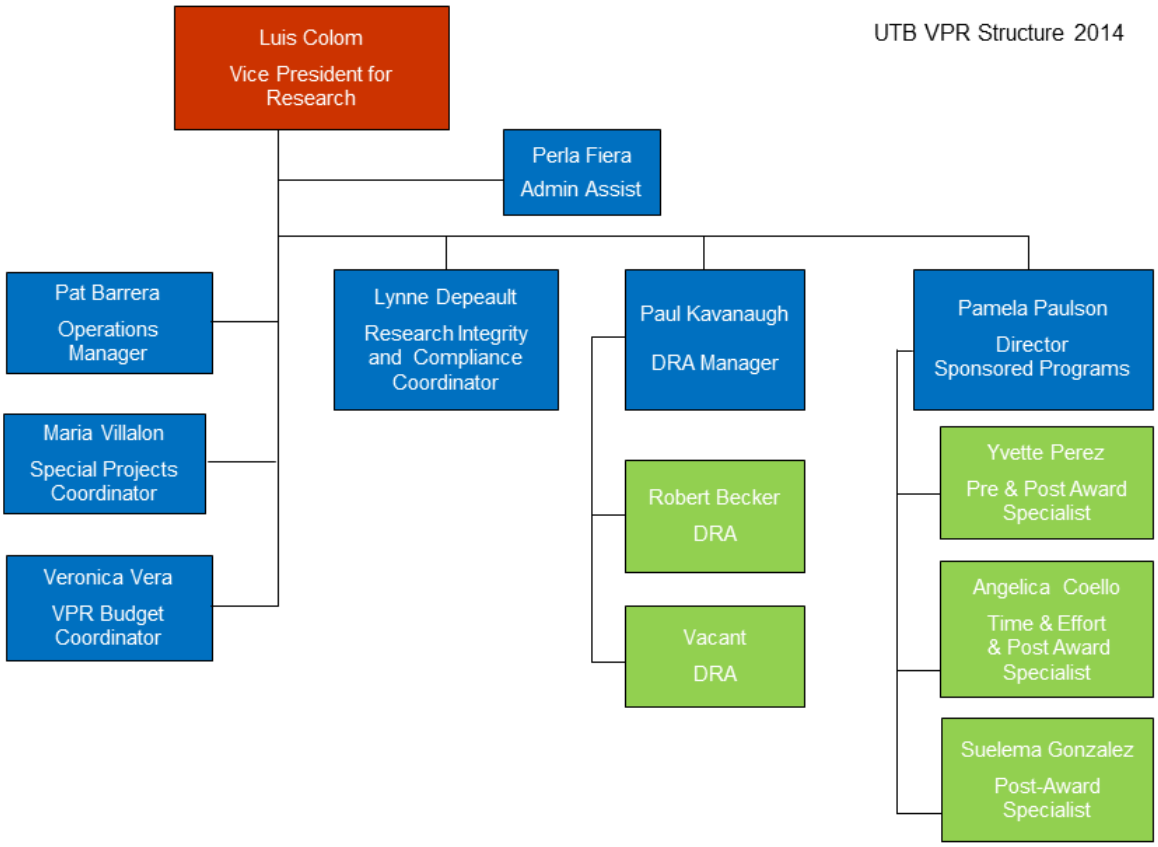
Office of Research Org Chart



THE UNIVERSITY OF TEXAS PAN AMERICAN
Associate Vice President for Business Affairs / Comptroller
Grants & Contracts Office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