PROGRAM REVIEW OUTLINE
Department of Electrical & Computer Engineering

I. Program Overview – A one to two-page summary of department's vision and goals.

II. Graduate Curricula and Degree Programs
A. 1. Scope of programs within the department
   2. Expected learning outcomes and outcomes assessment. Include typical degree plan/program of study.
B. Number and types of degrees awarded
   - Degrees Awarded – Academic Year (chart)
   - Comparison of Degrees Awarded – Fall Data (Peer info table)
   - Program Degrees Awarded (table)
C. Undergraduate and Graduate semester credit hours
   - Semester Credit Hours – Academic Year (chart)
   - SCH compared to Budget - Academic Year (chart)
D. Number of majors in the department
   - Enrollment by Level – Fall Data (chart)
   - Comparison of Enrollment – Fall Data (Peer info table)
   - Program Enrollment (table)
E. Course offerings and their enrollments over the past six years (enrollment trends by course)
   - Course Enrollments by Academic Year (table)
F. Courses cross listed

III. Faculty
A. Number, rank and demographics of the faculty (tenured and tenure track), GPTI's and TA's
   - Teaching Resources (chart)
   - Tenured and Tenure-Track by Rank - Fall Data (chart)
   - Comparison of Full-time Faculty (Peer info table)
B. List of faculty members (graduate and non-graduate) (table)
C. Summary of the number of refereed publications and creative activities (table)
D. Responsibilities and leadership in professional societies
   - Professional Leadership (table)
   - Committee service (table)
E. Assess average faculty productivity for Fall semesters only (use discipline appropriate criteria to determine)
   - Faculty Workload (table)
   - College SCH/FTE – Fall Data (chart)
   - Department SCH/FTE – Fall Data (chart)

IV. Graduate Students
A. Demographics of applicants and enrolled students
   - Graduate Student Summary by Category – AY (chart)
   - Graduate Student Summary by Year – AY (chart)
   - Graduate Applicants by Region – Fall/Summer Data (chart)
   - Graduate Applicants - Fall Data (table)
- Admitted Graduate Students - Fall Data (table)
- Enrolled New Graduate Students - Fall Data (table)
- Demographics of Enrolled Graduate Students - Fall Data (table)
- Demographics of Enrolled Undergraduate Students - Fall Data (table)

B. Test scores (GRE, GMAT or TOEFL) of enrolled students
   - Average GRE Scores for Enrolled Graduate Students – Fall Data (chart)

C. GPA of new students
   - New Graduate Students GPA by Level – Fall Data (chart)

D. Time to Degree in Years (chart)

E. Provide a breakdown of how many enrolled graduate students are RA's, TA's or GPTI's (chart)

F. Initial position and place of employment of graduates over the past 6 years (table)

G. Type of financial support available for graduate students.

H. Number of students who have received national and university fellowships, scholarships and other awards - fellowships awarded (table)

J. Percentage (%) of full time students receiving financial support

K. Graduate Student Publications and Creative Activities (table) – number of discipline-related refereed papers/publication, juried creative/performance accomplishments, book chapters, books, and external presentations per year per student. (Note: this may overlap with faculty publications.)

L. Programs for mentoring and professional preparation of graduate students.

M. Department efforts to retain students and graduation rates

N. Percentage of Full Time students per semester – Fall data

V. Department

A. Department operating expenses
   - Department Operating Cost - Academic Year (chart)
   - Department Operating Cost as a Fraction of Employees - (table)

B. Summary of Proposals (Submitted)
   - Summary of Number of Proposals Written and Accepted (table)

C. External Research expenditures
   - Summary of Faculty Awards (table)
   - Research Expenditures (chart)
   - Peer Institution Info (if available) (table)

D. Internal funding
   - Source of Internal Funds (TTU) - (table)

E. Scholarships and endowments

F. Departmental resources for research and teaching (i.e. classroom space, lab facilities) - (table)

G. HEAF expenditures (table)

H. External Program Accreditation – Name of body and date of last program accreditation review including description of body and accreditation specifics.

VI. Conclusions – a one- to two-page summary of the observed deficiencies and needs identified by your review. Highlight areas of greatest need and areas of significant contributions.

VII. Appendices – should include, but not be limited to, the following:
Table of Contents
A. Strategic plan
- Attachment from Strategic Planning website
B. Graduate Course Offerings (table)
C. Graduate Student Handbook
D. Graduate Student Association(s) - Description and information
E. Graduate Faculty Information (current Confirmation/Reconfirmation form packets for all tenured and tenure-track faculty)
I. Program Overview

The Department of Electrical and Computer Engineering is one of the largest departments in the College of Engineering with 25 tenure track faculty and about 167 graduate students. Most of the graduate students are supported by research assistantships or teaching assistantships. The MSEE program was approved in 1954. The department awarded its first masters degrees in 1957 and since then over 885 master’s degrees have been awarded. The Ph.D program was approved in 1964 and the first doctorate was awarded in 1965. As of August 2004, the department had awarded 179 PhDs.

The department administration consists of the Chair, Associate Chair, and Chair of the Graduate Studies Committee. Support staff includes a Business Manager, an Academic Program Advisor, Senior Business Assistant, Manager of Electrical and Computer Engineering Technical Operations, and Unit Manager. There are over 10 staff that are supported by research money in the department. The administrators and secretarial staff are housed in the Electrical Engineering Building. Some of the staff supported by research are also in the Basset Building.

The department carries one of the largest teaching loads in the College of Engineering. During the calendar years 2008 & 2009 the department taught 6,990 and 6,903 student credit hours respectively, at the undergraduate level. During the calendar years 2008 & 2009 the department taught 2,941 and 3,305 student credit hours respectively, at the graduate level. This is a fairly high teaching load when most courses are taught by the tenure track faculty. We use very few graduate students and part time people to teach courses.

Since 2004 the number of undergraduate majors has decreased from 486 to 457 and the number of graduate students has grown from 126 to 167. The decrease in undergraduates is largely due to the creation of the pre-engineering program in the college. When the pre-engineering students are transferred to the department in mid-February, our enrollment will increase to 493. The creation of a non-thesis option has allowed us to grow our graduate enrollment. The department produced 7 PhDs in AY 2007-08 and 6 in AY 2008-09. The department produced 35 MSEEs in AY 2007-08 and 47 in AY 2008-09. The number of undergraduate degrees in Electrical Engineering and Computer Engineering has remained around 55 per year, with a high of 69 in 2005-06.

The department has a very productive faculty with currently two Paul Whitfield Horn Professors, four endowed chairs, and one professorship. The faculty has received a number of teaching awards at the university level and also the college level. One faculty member has received the Barnie E. Rushing, Jr. Faculty Distinguished Research Award, the Alumni Association New Faculty Award, and the YWCA Women of Excellence in Science Award.

The Center for Pulsed Power and Power Electronics lead by Prof. Kristiansen is known internationally. The Nanophotonics Center has received worldwide recognition in short wavelength emitters and detectors. The Nano Tech Center and Maddox Laboratory house research activities by a number of ECE professors. The Center for Pulsed Power and Power Electronics has hosted a number of conferences over the last few years including well attended workshops. There are several other prominent labs in different research thrust areas including Electrical and Computer Engineering
the Computer Vision & Image Analysis Laboratory (CVIAL, Mitra/Nutter), Advanced Vehicular Engineering Laboratory (Bayne/Gale), Radio Frequency and System-on-a-Chip laboratory (Lie), Neuroimaging, Cognition, and Engineering Laboratory (Baker), Advanced Vision Laboratory (Sari-Sarraf) and the Program for Semiconductor Product Engineering (Gale). The CVIAL has also hosted several conferences over the last five years. The Advanced Vehicular Engineering Lab has entered a number of competitions in various hybrid and alternate fuel vehicles.

The department has averaged almost $6 million in external funding over the last seven years. This external funding has supported numerous graduate students.

The department also has a very active Industrial Advisory Board. They meet twice a year and help us out in numerous ways. They are used as a sounding board for all our undergraduate and graduate degree programs. They have been helpful in raising funds for special projects and also for scholarships.

The faculty has had significant turnover in the last 8 years. Nine of the twenty-five tenured/tenure track faculty have been hired since 2004. This number includes senior faculty as well as new Assistant Professors. The new faculty are very actively involved in sponsored research and publications. The department is very fortunate to have excellent senior faculty who have been instrumental in leading the junior faculty along.
II. Graduate Curricula and Degree Programs

The department offers the following graduate degree plans.

**Master of Science Degree in Electrical Engineering.** Students may elect a thesis or non-thesis option. Thesis option students are required to write a thesis. EE 6000 is the master's thesis course. A total of 6 hours credit is given for successful completion of the master's thesis. In addition, each Thesis option student must complete at least 24 semester hours of graduate course work. Non-thesis option students take a total of 36 semester hours of graduate course work. A comprehensive examination is required of all MSEE students.

For the thesis option there is a requirement of at least 18 semester hours (six courses) of graduate course work in Electrical Engineering. No more than one Individual Studies course (3 semester credit hours) can be used for the 18 hours. Non-thesis option students may take no more than 9 credit hours outside the department, and no more than 6 credit hours may be independent study.

Each MSEE student must take either EE 5371 (Engineering Analysis) or a graduate level statistics course offered by the Department of Mathematics and Statistics as part of their requirement. In addition, each MSEE student must take at least two courses (6 semester credit hours) in Electrical Engineering that are outside his or her "area of specialization". Currently, the areas of specialization are:

1. Instrumentation, control and network analysis
2. Digital/computer hardware/software
3. Antennas and microwaves
4. Signal processing and communications
5. Analog electronics and devices
6. Power, power electronics and pulsed power
7. Image processing and pattern recognition
8. Semiconductor product engineering and MEMS
9. Optics and lasers

The student may choose, as an option, a minor representing a total of six semester hours (thesis option) or nine semester hours (non-thesis option). The minor may be completed in a single department or in two departments, but the courses comprising the minor are subject to the following limitations: (a) they must carry graduate credit; (b) they must be approved by the department's Graduate Advisor; and (c) they must be approved by the Chairman or Graduate Advisor of the department which offers the course.

**PhD in Electrical Engineering.** The principal goal of the Ph.D. is to train research oriented electrical engineers for university teaching and research, governmental, and industrial employment. A minimum of three years of graduate study beyond the bachelor's degree is required for the doctorate. Work completed for the master's degree may be considered as a part of this period if it forms a logical sequence in the entire program.
Work completed in the doctoral program of another recognized graduate school will be considered, but no assurance can be given that such work will reduce the course or residence requirements here. In no case can transferred credit reduce the minimum residence.

Doctoral study cannot be calculated solely in terms of credit hours, but the program for the doctorate normally requires the completion of at least 60 or more semester hours of graduate work beyond the bachelor's degree, exclusive of credit for the dissertation.

The Department does not require a formal minor. However, the student may pursue a minor. If a minor is taken, it must include at least 15 graduate hours in a program outside the student's major. The minor will be declared in the student's Program for the Doctoral Degree. If a minor is taken, the major requires a minimum of 45 semester hours. No more than 18 semester hours (six courses) can be taken as individual study courses. If a formal minor is declared, it must be represented on the student's doctoral committee and must be covered on the qualifying examination.

A doctorate requires substantial depth and breadth of study in the major field. Students with a bachelor's degree in fields other than electrical or computer engineering are required to take EE 5363 (Linear Systems Analysis and Design) and EE 5301 (General Electrical Engineering). The breadth of the student's knowledge in electrical engineering is determined by the preliminary examination. The results of the preliminary examination determine if additional courses are required to satisfy the breadth requirement.

Courses listed for the major will be primarily in one academic program. However, courses from other academic programs may be included (other than courses for a minor, if one is declared) if they provide coherent support for the program courses in the major.

Programs at variance with this description may be approved in exceptional circumstances. Such proposed exceptions must be approved by the Advisory Committee and the ECE Graduate Advisor before they are submitted to the Graduate School for consideration.
2. Expected learning outcomes and outcomes assessment. Include typical degree plan/program of study.

Program Objectives:

I. Solve important problems in a modern technological society as valuable, productive engineers.
II. Enter and succeed in a graduate program.
III. Function and communicate effectively, both individually and within multidisciplinary teams.
IV. Continue the process of life long learning.
V. Be sensitive to the consequences of their work, both ethically and professionally, for productive professional careers.

Learning Outcomes:

(a) An ability to apply knowledge of mathematics, science, and engineering.
(b) An ability to design and conduct experiments, as well as to analyze and interpret data.
(c) An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
(d) An ability to function on multidisciplinary teams.
(e) An ability to identify, formulate, and solve engineering problems.
(f) An understanding of professional and ethical responsibility.
(g) An ability to communicate effectively.
(h) The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.
(i) A recognition of the need for and an ability to engage in life-long learning.
(j) A knowledge of contemporary issues.
(k) An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.
## ELECTRICAL ENGINEERING PROGRAM OUTCOMES AND ASSESSMENT

<table>
<thead>
<tr>
<th>Program Outcomes</th>
<th>EO</th>
<th>ABET a-k</th>
<th>Strategies/Actions</th>
<th>Assessment Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Students will be able to identify, analyze and solve basic electrical</td>
<td>I,</td>
<td>a, e, k</td>
<td>Curriculum requirement of courses in mathematics; physics; electrical engineering</td>
<td>Grades in respective courses&lt;br&gt;Sample student work&lt;br&gt;Student Assessment of CLOs&lt;br&gt;Faculty Assessment of CLOs&lt;br&gt;Basic Skills exam&lt;br&gt;Mock FE exam&lt;br&gt;Student/IAB/Faculty input&lt;br&gt;Thesis, dissertation defense&lt;br&gt;Fundamentals of Engineering Exam</td>
</tr>
<tr>
<td>engineering problems, in specific areas, by applying knowledge of mathematics,</td>
<td>II</td>
<td></td>
<td>and computer science. Establishment of Course Learning Objectives (CLOs) for electrical</td>
<td></td>
</tr>
<tr>
<td>science and engineering with modern engineering tools</td>
<td></td>
<td></td>
<td>engineering courses.</td>
<td></td>
</tr>
<tr>
<td>2. Students will be able to design a system, component or process to meet</td>
<td>I,</td>
<td>a, c, e,</td>
<td>Laboratory experience with specific</td>
<td>Student laboratory portfolios&lt;br&gt;Grades in respective courses&lt;br&gt;Sample student work&lt;br&gt;Student Assessment of CLOs&lt;br&gt;Faculty Assessment of CLOs&lt;br&gt;Student/IAB/Faculty input&lt;br&gt;Thesis, dissertation defense&lt;br&gt;Fundamentals of Engineering Exam</td>
</tr>
<tr>
<td>desired needs within realistic constraints.</td>
<td>II</td>
<td>k</td>
<td>requirements that included long term, open-ended design problems with emphasis on</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>team work, communication and perpetual learning.</td>
<td></td>
</tr>
<tr>
<td>3. Students will be able to design and conduct scientific and engineering</td>
<td>I</td>
<td>b</td>
<td>Laboratory experience with specific</td>
<td>Student laboratory portfolios&lt;br&gt;Grades in respective courses&lt;br&gt;Sample student work&lt;br&gt;Student Assessment of CLOs&lt;br&gt;Faculty Assessment of CLOs&lt;br&gt;Student/IAB/Faculty input&lt;br&gt;Thesis, dissertation defense&lt;br&gt;Fundamentals of Engineering Exam</td>
</tr>
<tr>
<td>experiments, and to analyze and interpret the resulting data</td>
<td></td>
<td></td>
<td>requirements that included long term, open-ended design problems with emphasis on</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>team work, communication and perpetual learning.</td>
<td></td>
</tr>
<tr>
<td>4. Recognize the need for and have the ability to engage in perpetual learning</td>
<td>IV</td>
<td>i</td>
<td>Laboratory experience with specific</td>
<td>Student laboratory portfolios&lt;br&gt;Grades in respective courses&lt;br&gt;Student Assessment of CLOs&lt;br&gt;Faculty Assessment of CLOs&lt;br&gt;Student/IAB/Faculty input&lt;br&gt;Thesis, dissertation defense</td>
</tr>
<tr>
<td>by working on projects for which they have no prior experience.</td>
<td></td>
<td></td>
<td>requirements that included long term, open-ended design problems with emphasis on</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>team work, communication and perpetual learning.</td>
<td></td>
</tr>
</tbody>
</table>
### Program Outcomes, Actions and Assessment

#### Typical Degree Program

Due to the wide breadth of focus areas and specialization degree plans differ greatly between programs. With the thesis based MSEE and the Ph. D. programs, the program of study is developed jointly between the student and the committee with a large degree of guidance by the student’s thesis or dissertation advisor. A typical program for the MSEE is shown below.
Sample Curriculum

1st Fall Semester

- Solid State Devices
- Testing of Digital Systems
- Intro to Semiconductor Processing

1st Spring Semester

- Intro to VLSI design
- Statistical Analysis
- Parametric/Functional Device Testing

1st Summer Semester

- Industrial Co-op

2nd Fall Semester

- Industrial Co-op

2nd Spring Semester

- Master’s Thesis
- PSPE Elective
A. Number and types of degrees awarded

### Degrees Awarded - Academic Year

**(Electrical Engineering)**

*Source: Institutional Research and Information Mgmt*

*Chart prepared by The Graduate School*

**Graduate Program Degrees Awarded**

*Source: Institutional Research and Information Mgmt*

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical Engineering</td>
<td>47</td>
<td>49</td>
<td>35</td>
<td>42</td>
<td>53</td>
<td>0</td>
</tr>
</tbody>
</table>

### Comparison of Degrees Awarded - Fall Data

<table>
<thead>
<tr>
<th>Name of Program</th>
<th>04/05</th>
<th>05/06</th>
<th>06/07</th>
<th>07/08</th>
<th>08/09</th>
<th>09/10</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Iowa State University</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bachelor</td>
<td>281</td>
<td>245</td>
<td>169</td>
<td>160</td>
<td>113</td>
<td>139</td>
</tr>
<tr>
<td>Master</td>
<td>38</td>
<td>31</td>
<td>35</td>
<td>37</td>
<td>31</td>
<td>65</td>
</tr>
<tr>
<td>Doctoral</td>
<td>14</td>
<td>28</td>
<td>22</td>
<td>15</td>
<td>28</td>
<td>16</td>
</tr>
<tr>
<td><strong>University of Nebraska</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bachelor</td>
<td>44</td>
<td>59</td>
<td>47</td>
<td>38</td>
<td>41</td>
<td>41</td>
</tr>
<tr>
<td>Master</td>
<td>21</td>
<td>13</td>
<td>13</td>
<td>8</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>Doctoral</td>
<td>16</td>
<td>18</td>
<td>25</td>
<td>28</td>
<td>28</td>
<td>34*</td>
</tr>
<tr>
<td><strong>Kansas State University</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bachelor</td>
<td>90</td>
<td>79</td>
<td>86</td>
<td>59</td>
<td>61</td>
<td>N/A</td>
</tr>
<tr>
<td>Master</td>
<td>24</td>
<td>19</td>
<td>18</td>
<td>17</td>
<td>23</td>
<td>N/A</td>
</tr>
<tr>
<td>Doctoral</td>
<td>3</td>
<td>4</td>
<td>0</td>
<td>3</td>
<td>5</td>
<td>N/A</td>
</tr>
</tbody>
</table>

*Electrical & Computer Engineering*
B. Undergraduate and graduate semester credit hours

AY SCH compared to Budget
(Electrical & Computer Engineering)

Source: Institutional Research and Information Mgmt
Chart prepared by The Graduate School

Electrical & Computer Engineering
C. Number of majors in the department for the fall semesters

![Enrollment by Level - Fall Data (Electrical Engineering)](chart)

### Graduate Program Enrollment

**Source: Institutional Research and Information Services**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical Engineering</td>
<td>126</td>
<td>135</td>
<td>105</td>
<td>125</td>
<td>148</td>
<td>167</td>
</tr>
</tbody>
</table>

### Comparison of Enrollment - Fall Data

**Source: Institutional Research and Information Services**

<table>
<thead>
<tr>
<th></th>
<th>04/05</th>
<th>05/06</th>
<th>06/07</th>
<th>07/08</th>
<th>08/09</th>
<th>09/10</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bachelor’s</strong></td>
<td>310</td>
<td>275</td>
<td>236</td>
<td>250</td>
<td>289</td>
<td>321</td>
</tr>
<tr>
<td><strong>Masters</strong></td>
<td>91</td>
<td>88</td>
<td>78</td>
<td>97</td>
<td>118</td>
<td>121</td>
</tr>
<tr>
<td><strong>Doctoral</strong></td>
<td>35</td>
<td>37</td>
<td>27</td>
<td>28</td>
<td>30</td>
<td>46</td>
</tr>
</tbody>
</table>

**Iowa State University**

<table>
<thead>
<tr>
<th></th>
<th>04/05</th>
<th>05/06</th>
<th>06/07</th>
<th>07/08</th>
<th>08/09</th>
<th>09/10</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bachelor</strong></td>
<td>1157</td>
<td>965</td>
<td>866</td>
<td>833</td>
<td>844</td>
<td>947</td>
</tr>
<tr>
<td><strong>Master</strong></td>
<td>99</td>
<td>104</td>
<td>96</td>
<td>117</td>
<td>124</td>
<td>136</td>
</tr>
<tr>
<td><strong>Doctoral</strong></td>
<td>155</td>
<td>148</td>
<td>164</td>
<td>185</td>
<td>183</td>
<td>190</td>
</tr>
</tbody>
</table>
D. Course enrollments over the past six years (enrollment trends by course)

- Figures are totals – classes may be offered more than once a year

**Course Enrollments by Academic Year**

*Source: Institutional Research and Information Mgmt
Table Prepared by The Graduate School*

<table>
<thead>
<tr>
<th>DEPT</th>
<th>Subject</th>
<th>COURSE</th>
<th>2004-05</th>
<th>2005-06</th>
<th>2006-07</th>
<th>2007-08</th>
<th>2008-09 (Fall 08 only)</th>
<th>2009-10</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
<td>E</td>
<td>5120</td>
<td>173</td>
<td>150</td>
<td>137</td>
<td>178</td>
<td>126</td>
<td>0</td>
<td>764</td>
</tr>
<tr>
<td>E</td>
<td>E</td>
<td>5301</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>E</td>
<td>E</td>
<td>5310</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>E</td>
<td>E</td>
<td>5312</td>
<td>14</td>
<td>9</td>
<td>22</td>
<td>19</td>
<td>0</td>
<td>64</td>
<td>64</td>
</tr>
<tr>
<td>E</td>
<td>E</td>
<td>5314</td>
<td>23</td>
<td>19</td>
<td>22</td>
<td>21</td>
<td>31</td>
<td>116</td>
<td>116</td>
</tr>
<tr>
<td>E</td>
<td>E</td>
<td>5316</td>
<td>11</td>
<td>0</td>
<td>19</td>
<td>0</td>
<td>0</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>E</td>
<td>E</td>
<td>5321</td>
<td>19</td>
<td>24</td>
<td>19</td>
<td>24</td>
<td>0</td>
<td>86</td>
<td>86</td>
</tr>
<tr>
<td>E</td>
<td>E</td>
<td>5323</td>
<td>12</td>
<td>0</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>17</td>
<td>17</td>
</tr>
<tr>
<td>E</td>
<td>E</td>
<td>5324</td>
<td>10</td>
<td>8</td>
<td>0</td>
<td>11</td>
<td>0</td>
<td>29</td>
<td>29</td>
</tr>
<tr>
<td>E</td>
<td>E</td>
<td>5325</td>
<td>9</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>E</td>
<td>E</td>
<td>5331</td>
<td>94</td>
<td>55</td>
<td>74</td>
<td>68</td>
<td>19</td>
<td>310</td>
<td>310</td>
</tr>
<tr>
<td>E</td>
<td>E</td>
<td>5332</td>
<td>14</td>
<td>52</td>
<td>23</td>
<td>79</td>
<td>8</td>
<td>176</td>
<td>176</td>
</tr>
<tr>
<td>E</td>
<td>E</td>
<td>5342</td>
<td>0</td>
<td>0</td>
<td>12</td>
<td>0</td>
<td>7</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td>E</td>
<td>E</td>
<td>5343</td>
<td>0</td>
<td>16</td>
<td>7</td>
<td>11</td>
<td>0</td>
<td>34</td>
<td>34</td>
</tr>
<tr>
<td>E</td>
<td>E</td>
<td>5344</td>
<td>0</td>
<td>17</td>
<td>0</td>
<td>15</td>
<td>0</td>
<td>32</td>
<td>32</td>
</tr>
<tr>
<td>E</td>
<td>E</td>
<td>5345</td>
<td>0</td>
<td>9</td>
<td>14</td>
<td>4</td>
<td>0</td>
<td>27</td>
<td>27</td>
</tr>
<tr>
<td>E</td>
<td>E</td>
<td>5352</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>7</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>E</td>
<td>E</td>
<td>5353</td>
<td>11</td>
<td>0</td>
<td>9</td>
<td>6</td>
<td>5</td>
<td>31</td>
<td>31</td>
</tr>
<tr>
<td>E</td>
<td>E</td>
<td>5360</td>
<td>9</td>
<td>0</td>
<td>5</td>
<td>6</td>
<td>0</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>E</td>
<td>E</td>
<td>5361</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>13</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td>E</td>
<td>E</td>
<td>5362</td>
<td>0</td>
<td>15</td>
<td>0</td>
<td>7</td>
<td>31</td>
<td>53</td>
<td>53</td>
</tr>
<tr>
<td>E</td>
<td>E</td>
<td>5364</td>
<td>13</td>
<td>12</td>
<td>7</td>
<td>14</td>
<td>0</td>
<td>46</td>
<td>46</td>
</tr>
<tr>
<td>E</td>
<td>E</td>
<td>5365</td>
<td>18</td>
<td>13</td>
<td>34</td>
<td>23</td>
<td>0</td>
<td>88</td>
<td>88</td>
</tr>
<tr>
<td>E</td>
<td>E</td>
<td>5366</td>
<td>11</td>
<td>18</td>
<td>12</td>
<td>30</td>
<td>44</td>
<td>115</td>
<td>115</td>
</tr>
<tr>
<td>E</td>
<td>E</td>
<td>5367</td>
<td>11</td>
<td>14</td>
<td>9</td>
<td>0</td>
<td>9</td>
<td>43</td>
<td>43</td>
</tr>
<tr>
<td>E</td>
<td>E</td>
<td>5368</td>
<td>0</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>E</td>
<td>E</td>
<td>5371</td>
<td>20</td>
<td>34</td>
<td>27</td>
<td>26</td>
<td>24</td>
<td>131</td>
<td>131</td>
</tr>
<tr>
<td>E</td>
<td>E</td>
<td>5375</td>
<td>17</td>
<td>15</td>
<td>10</td>
<td>21</td>
<td>23</td>
<td>86</td>
<td>86</td>
</tr>
<tr>
<td>E</td>
<td>E</td>
<td>5376</td>
<td>19</td>
<td>10</td>
<td>15</td>
<td>20</td>
<td>0</td>
<td>64</td>
<td>64</td>
</tr>
<tr>
<td>E</td>
<td>E</td>
<td>5381</td>
<td>13</td>
<td>13</td>
<td>9</td>
<td>10</td>
<td>29</td>
<td>74</td>
<td>74</td>
</tr>
<tr>
<td>E</td>
<td>E</td>
<td>5382</td>
<td>17</td>
<td>18</td>
<td>17</td>
<td>12</td>
<td>0</td>
<td>64</td>
<td>64</td>
</tr>
<tr>
<td>E</td>
<td>E</td>
<td>5385</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td>22</td>
<td>23</td>
<td>72</td>
<td>72</td>
</tr>
<tr>
<td>E</td>
<td>E</td>
<td>5386</td>
<td>7</td>
<td>5</td>
<td>5</td>
<td>7</td>
<td>0</td>
<td>24</td>
<td>24</td>
</tr>
<tr>
<td>E</td>
<td>E</td>
<td>5391</td>
<td>16</td>
<td>0</td>
<td>13</td>
<td>1</td>
<td>18</td>
<td>48</td>
<td>48</td>
</tr>
<tr>
<td>E</td>
<td>E</td>
<td>6000</td>
<td>280</td>
<td>253</td>
<td>248</td>
<td>280</td>
<td>59</td>
<td>1120</td>
<td>1120</td>
</tr>
<tr>
<td>E</td>
<td>E</td>
<td>6360</td>
<td>0</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>E</td>
<td>E</td>
<td>6363</td>
<td>14</td>
<td>0</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td>E</td>
<td>E</td>
<td>6365</td>
<td>0</td>
<td>11</td>
<td>0</td>
<td>17</td>
<td>0</td>
<td>28</td>
<td>28</td>
</tr>
<tr>
<td>E</td>
<td>E</td>
<td>7000</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>E</td>
<td>E</td>
<td>8000</td>
<td>126</td>
<td>107</td>
<td>90</td>
<td>98</td>
<td>25</td>
<td>446</td>
<td>446</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td></td>
<td></td>
<td>996</td>
<td>918</td>
<td>883</td>
<td>1031</td>
<td>501</td>
<td>4329</td>
<td></td>
</tr>
</tbody>
</table>
III. Faculty

A. Number, rank, and demographics of the graduate faculty

![Diagram of Teaching Resources (Electrical Engineering)]

![Diagram of Tenured and Tenure-Track by Rank - Fall Data (Electrical Engineering)]
### Comparison of Full-time Faculty

<table>
<thead>
<tr>
<th></th>
<th>04/05</th>
<th>05/06</th>
<th>06/07</th>
<th>07/08</th>
<th>08/09</th>
<th>09/10</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Iowa State University</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tenure/Tenure Track</td>
<td>42</td>
<td>48</td>
<td>48</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-tenure track</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TA’s</td>
<td></td>
<td>27</td>
<td>34</td>
<td>27</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>University of Nebraska</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tenure/Tenure Track</td>
<td>18</td>
<td>19</td>
<td>19</td>
<td>19</td>
<td>22</td>
<td>23</td>
</tr>
<tr>
<td>Non-tenure track</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>TA’s</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>20</td>
</tr>
<tr>
<td><strong>Texas Tech</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tenure/Tenure Track</td>
<td>23</td>
<td>21</td>
<td>22</td>
<td>24</td>
<td>25</td>
<td>24</td>
</tr>
<tr>
<td>Non-tenure track</td>
<td>2</td>
<td>4</td>
<td>5</td>
<td>3</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>GPTTs</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>TA’s</td>
<td>27</td>
<td>29</td>
<td>11</td>
<td>25</td>
<td>32</td>
<td>0</td>
</tr>
</tbody>
</table>

---

**B. List of faculty members**

*List all faculty who were employed by your department during the six years of this review*

<table>
<thead>
<tr>
<th>FACULTY NAME</th>
<th>JOB TITLE</th>
<th>HIRE DATE</th>
<th>END DATE</th>
<th>Member of Grad Faculty?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Karp</td>
<td>Associate Professor</td>
<td>9/00</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Saed</td>
<td>Associate Professor</td>
<td>1/01</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Bernussi</td>
<td>Associate Professor</td>
<td>9/04</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Sari-Sarraf</td>
<td>Associate Professor</td>
<td>9/99</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Nikishin</td>
<td>Professor</td>
<td>8/00</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Nutter</td>
<td>Associate Professor</td>
<td>8/02</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Krompholz</td>
<td>Professor</td>
<td>3/87</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Giesselmann</td>
<td>Professor</td>
<td>9/86</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Gale</td>
<td>Professor</td>
<td>6/04</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Baker</td>
<td>Associate Professor</td>
<td>9/89</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Bayne</td>
<td>Associate Professor</td>
<td>9/09</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Bredeson</td>
<td>Professor</td>
<td></td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Chao</td>
<td>Professor</td>
<td></td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Dallas</td>
<td>Associate Professor</td>
<td>9/99</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Dickens, J.</td>
<td>Professor</td>
<td>9/96</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Frank</td>
<td>Visiting Professor</td>
<td></td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Kristiansen</td>
<td>Horn Professor</td>
<td>9/66</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Lie</td>
<td>Associate Professor</td>
<td>7/07</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Mankowski</td>
<td>Associate Professor</td>
<td></td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Maqusi</td>
<td>Adjunct</td>
<td></td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Mitra</td>
<td>Horn Professor</td>
<td>9/84</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Neuber</td>
<td>Professor</td>
<td>9/98</td>
<td>Y</td>
<td></td>
</tr>
</tbody>
</table>

Electrical & Computer Engineering
<table>
<thead>
<tr>
<th>Faculty Name</th>
<th>Title</th>
<th>Start Date</th>
<th>Y/N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pal</td>
<td>Assistant Professor</td>
<td>9/07</td>
<td>Y</td>
</tr>
<tr>
<td>Parten</td>
<td>Professor</td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>Rao</td>
<td>Professor</td>
<td>9/07</td>
<td>Y</td>
</tr>
<tr>
<td>Temkin</td>
<td>Horn Professor</td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>Trost</td>
<td>Professor</td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>Zieher</td>
<td>Associate Professor</td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>Chakrabortty</td>
<td>Assistant Professor</td>
<td>9/07</td>
<td>Y</td>
</tr>
<tr>
<td>Mohsenian-Rad</td>
<td>Assistant Professor</td>
<td>10/10</td>
<td>Y</td>
</tr>
<tr>
<td>Lin</td>
<td>Professor</td>
<td>9/08</td>
<td>Y</td>
</tr>
<tr>
<td>Jiang</td>
<td>Professor</td>
<td>9/08</td>
<td>Y</td>
</tr>
<tr>
<td>Fan</td>
<td>Assistant Professor</td>
<td>9/08</td>
<td>Y</td>
</tr>
<tr>
<td>Li</td>
<td>Assistant Professor</td>
<td>9/09</td>
<td>Y</td>
</tr>
</tbody>
</table>

C. Assess average faculty productivity for Fall semesters only (use discipline appropriate criteria to determine)

**FACULTY WORKLOAD**

<table>
<thead>
<tr>
<th>Year</th>
<th>University</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>College</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Department</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Electrical & Computer Engineering
College SCH/FTE - Fall Data (Engineering)
Source: Institutional Research and Information Mgmt
Chart prepared by The Graduate School

<table>
<thead>
<tr>
<th>Year</th>
<th>SCH/FTE for total faculty</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>152</td>
</tr>
<tr>
<td>2005</td>
<td>161</td>
</tr>
<tr>
<td>2006</td>
<td>155</td>
</tr>
<tr>
<td>2007</td>
<td>160</td>
</tr>
<tr>
<td>2008</td>
<td>172</td>
</tr>
<tr>
<td>2009</td>
<td>190</td>
</tr>
</tbody>
</table>

Department SCH/FTE - Fall Data (Electrical & Computer Engineering)
Source: Institutional Research and Information Mgmt
Chart prepared by The Graduate School

<table>
<thead>
<tr>
<th>Year</th>
<th>SCH/FTE for total faculty</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>125</td>
</tr>
<tr>
<td>2005</td>
<td>124</td>
</tr>
<tr>
<td>2006</td>
<td>144</td>
</tr>
<tr>
<td>2007</td>
<td>132</td>
</tr>
<tr>
<td>2008</td>
<td>119</td>
</tr>
<tr>
<td>2009</td>
<td>181</td>
</tr>
</tbody>
</table>
IV. Graduate Students

A. Demographics of applicants and enrolled students

**Graduate Student Summary by Category - Fall Data**

(Electrical Engineering)

Source: Institutional Research and Information Mgmt
Chart prepared by The Graduate School

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Applicants</th>
<th>Total Admitted</th>
<th>New Grad Students</th>
<th>Students Graduated</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>267</td>
<td>51</td>
<td>29</td>
<td>57</td>
</tr>
<tr>
<td>2005</td>
<td>199</td>
<td>57</td>
<td>30</td>
<td>47</td>
</tr>
<tr>
<td>2006</td>
<td>416</td>
<td>52</td>
<td>29</td>
<td>49</td>
</tr>
<tr>
<td>2007</td>
<td>524</td>
<td>81</td>
<td>38</td>
<td>35</td>
</tr>
<tr>
<td>2008</td>
<td>473</td>
<td>93</td>
<td>56</td>
<td>42</td>
</tr>
<tr>
<td>2009</td>
<td>562</td>
<td>151</td>
<td>39</td>
<td>53</td>
</tr>
</tbody>
</table>

**Graduate Student Summary by Year - Fall Data**

(Electrical Engineering)

Source: Institutional Research and Information Mgmt
Chart prepared by The Graduate School

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Applicants</th>
<th>Total Admitted</th>
<th>New Grad Students</th>
<th>Students Graduated</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>267</td>
<td>51</td>
<td>29</td>
<td>57</td>
</tr>
<tr>
<td>2005</td>
<td>199</td>
<td>57</td>
<td>30</td>
<td>47</td>
</tr>
<tr>
<td>2006</td>
<td>416</td>
<td>52</td>
<td>29</td>
<td>49</td>
</tr>
<tr>
<td>2007</td>
<td>524</td>
<td>81</td>
<td>38</td>
<td>35</td>
</tr>
<tr>
<td>2008</td>
<td>473</td>
<td>93</td>
<td>56</td>
<td>42</td>
</tr>
<tr>
<td>2009</td>
<td>562</td>
<td>151</td>
<td>39</td>
<td>53</td>
</tr>
</tbody>
</table>
Graduate Applicants by Region - Fall/Summer Data
(Electrical Engineering)
Source: Institutional Research and Information Mgmt
Chart prepared by The Graduate School

<table>
<thead>
<tr>
<th>Year</th>
<th>Blank Code</th>
<th>TX</th>
<th>USA</th>
<th>INTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>13</td>
<td>27</td>
<td>4</td>
<td>223</td>
</tr>
<tr>
<td>2005</td>
<td>2</td>
<td>19</td>
<td>4</td>
<td>174</td>
</tr>
<tr>
<td>2006</td>
<td>2</td>
<td>26</td>
<td>3</td>
<td>385</td>
</tr>
<tr>
<td>2007</td>
<td>8</td>
<td>17</td>
<td>2</td>
<td>497</td>
</tr>
<tr>
<td>2008</td>
<td>4</td>
<td>17</td>
<td>0</td>
<td>452</td>
</tr>
<tr>
<td>2009</td>
<td>453</td>
<td>29</td>
<td>15</td>
<td>65</td>
</tr>
</tbody>
</table>
### Graduate Applicants - Fall Data

<table>
<thead>
<tr>
<th></th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>F M</td>
<td>F M</td>
<td>F M</td>
<td>F M</td>
<td>F M</td>
<td>F M</td>
</tr>
<tr>
<td>Amer Ind</td>
<td>0 0</td>
<td>0 0</td>
<td>0 0</td>
<td>0 1</td>
<td>0 0</td>
<td>0 2</td>
</tr>
<tr>
<td>Asian</td>
<td>0 4</td>
<td>3 12</td>
<td>9 28</td>
<td>1 6</td>
<td>0 1</td>
<td>0 2</td>
</tr>
<tr>
<td>Black</td>
<td>1 1</td>
<td>0 1</td>
<td>1 2</td>
<td>0 0</td>
<td>1 0</td>
<td>0 3</td>
</tr>
<tr>
<td>Hispanic</td>
<td>0 5</td>
<td>0 2</td>
<td>0 6</td>
<td>1 5</td>
<td>0 2</td>
<td>0 4</td>
</tr>
<tr>
<td>Non-Resident</td>
<td>48 162</td>
<td>29 116</td>
<td>65 236</td>
<td>100 367</td>
<td>90 336</td>
<td>107 418</td>
</tr>
<tr>
<td>Unknown</td>
<td>4 14</td>
<td>2 15</td>
<td>9 34</td>
<td>1 25</td>
<td>6 19</td>
<td>0 0</td>
</tr>
<tr>
<td>White</td>
<td>5 23</td>
<td>4 15</td>
<td>1 24</td>
<td>3 15</td>
<td>2 14</td>
<td>3 25</td>
</tr>
<tr>
<td>Gender Total</td>
<td>58 209</td>
<td>38 161</td>
<td>85 331</td>
<td>106 418</td>
<td>99 374</td>
<td>110 452</td>
</tr>
<tr>
<td>Total Applicants</td>
<td>267</td>
<td>199</td>
<td>416</td>
<td>524</td>
<td>473</td>
<td>562</td>
</tr>
</tbody>
</table>

### Admitted Graduate Students - Fall Data

<table>
<thead>
<tr>
<th></th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>F M</td>
<td>F M</td>
<td>F M</td>
<td>F M</td>
<td>F M</td>
<td>F M</td>
</tr>
<tr>
<td>Amer Ind</td>
<td>0 0</td>
<td>0 0</td>
<td>0 0</td>
<td>0 0</td>
<td>0 0</td>
<td>0 0</td>
</tr>
<tr>
<td>Asian</td>
<td>0 0</td>
<td>0 1</td>
<td>2 2</td>
<td>0 1</td>
<td>0 0</td>
<td>0 1</td>
</tr>
<tr>
<td>Black</td>
<td>0 1</td>
<td>0 0</td>
<td>0 0</td>
<td>0 0</td>
<td>0 0</td>
<td>0 1</td>
</tr>
<tr>
<td>Hispanic</td>
<td>0 3</td>
<td>0 2</td>
<td>0 4</td>
<td>1 3</td>
<td>0 1</td>
<td>0 3</td>
</tr>
<tr>
<td>Non-Resident</td>
<td>5 21</td>
<td>9 30</td>
<td>9 11</td>
<td>20 39</td>
<td>16 60</td>
<td>35 92</td>
</tr>
<tr>
<td>Unknown</td>
<td>1 1</td>
<td>0 2</td>
<td>0 3</td>
<td>0 2</td>
<td>2 1</td>
<td>0 0</td>
</tr>
<tr>
<td>White</td>
<td>3 16</td>
<td>3 10</td>
<td>1 20</td>
<td>2 13</td>
<td>1 12</td>
<td>1 18</td>
</tr>
<tr>
<td>Gender Total</td>
<td>9 42</td>
<td>12 45</td>
<td>12 40</td>
<td>23 58</td>
<td>19 74</td>
<td>36 115</td>
</tr>
<tr>
<td>Total Admitted</td>
<td>51</td>
<td>57</td>
<td>52</td>
<td>81</td>
<td>93</td>
<td>151</td>
</tr>
</tbody>
</table>

### Enrolled New Graduate Students - Fall Data

<table>
<thead>
<tr>
<th></th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>F M</td>
<td>F M</td>
<td>F M</td>
<td>F M</td>
<td>F M</td>
<td>F M</td>
</tr>
<tr>
<td>Amer Ind</td>
<td>0 0</td>
<td>0 0</td>
<td>0 0</td>
<td>0 0</td>
<td>0 0</td>
<td>0 0</td>
</tr>
<tr>
<td>Asian</td>
<td>0 0</td>
<td>0 1</td>
<td>0 0</td>
<td>0 1</td>
<td>0 0</td>
<td>0 0</td>
</tr>
<tr>
<td>Black</td>
<td>0 0</td>
<td>0 0</td>
<td>0 0</td>
<td>0 0</td>
<td>0 0</td>
<td>0 1</td>
</tr>
<tr>
<td>Hispanic</td>
<td>0 2</td>
<td>0 1</td>
<td>0 2</td>
<td>0 3</td>
<td>0 0</td>
<td>0 0</td>
</tr>
<tr>
<td>Non-Resident</td>
<td>1 12</td>
<td>7 11</td>
<td>7 3</td>
<td>7 17</td>
<td>9 35</td>
<td>8 21</td>
</tr>
<tr>
<td>Unknown</td>
<td>1 1</td>
<td>0 0</td>
<td>0 1</td>
<td>0 1</td>
<td>2 1</td>
<td>0 0</td>
</tr>
<tr>
<td>White</td>
<td>1 11</td>
<td>2 9</td>
<td>1 14</td>
<td>1 8</td>
<td>0 9</td>
<td>1 8</td>
</tr>
<tr>
<td>Gender Total</td>
<td>3 26</td>
<td>9 21</td>
<td>9 20</td>
<td>8 30</td>
<td>11 45</td>
<td>9 30</td>
</tr>
<tr>
<td>Total Enrolled</td>
<td>29</td>
<td>30</td>
<td>29</td>
<td>38</td>
<td>56</td>
<td>39</td>
</tr>
</tbody>
</table>

### Demographics of Enrolled Graduate Students - Fall Data
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Amer Ind</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Asian</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Black</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Hispanic</td>
<td>0</td>
<td>4</td>
<td>1</td>
<td>5</td>
<td>1</td>
<td>6</td>
<td>1</td>
<td>7</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Non-Resident</td>
<td>10</td>
<td>58</td>
<td>15</td>
<td>53</td>
<td>15</td>
<td>31</td>
<td>21</td>
<td>34</td>
<td>22</td>
<td>62</td>
<td>30</td>
<td>79</td>
</tr>
<tr>
<td>Unknown</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>3</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>White</td>
<td>4</td>
<td>44</td>
<td>5</td>
<td>40</td>
<td>4</td>
<td>42</td>
<td>5</td>
<td>50</td>
<td>4</td>
<td>47</td>
<td>4</td>
<td>45</td>
</tr>
<tr>
<td>Gender Total</td>
<td>16</td>
<td>110</td>
<td>22</td>
<td>103</td>
<td>21</td>
<td>84</td>
<td>28</td>
<td>97</td>
<td>28</td>
<td>120</td>
<td>36</td>
<td>131</td>
</tr>
<tr>
<td>Graduate</td>
<td>126</td>
<td>125</td>
<td>105</td>
<td>125</td>
<td>148</td>
<td>167</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Demographics of Enrolled Undergraduate Students - Fall Data**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Amer Ind</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Asian</td>
<td>2</td>
<td>18</td>
<td>0</td>
<td>14</td>
<td>2</td>
<td>11</td>
<td>5</td>
<td>18</td>
<td>5</td>
<td>27</td>
<td>2</td>
<td>16</td>
</tr>
<tr>
<td>Black</td>
<td>3</td>
<td>13</td>
<td>3</td>
<td>9</td>
<td>1</td>
<td>6</td>
<td>3</td>
<td>15</td>
<td>3</td>
<td>17</td>
<td>1</td>
<td>19</td>
</tr>
<tr>
<td>Hispanic</td>
<td>4</td>
<td>29</td>
<td>4</td>
<td>26</td>
<td>1</td>
<td>25</td>
<td>1</td>
<td>27</td>
<td>4</td>
<td>31</td>
<td>7</td>
<td>44</td>
</tr>
<tr>
<td>Non-Resident</td>
<td>1</td>
<td>15</td>
<td>1</td>
<td>16</td>
<td>2</td>
<td>9</td>
<td>2</td>
<td>9</td>
<td>4</td>
<td>11</td>
<td>4</td>
<td>26</td>
</tr>
<tr>
<td>Unknown</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>White</td>
<td>14</td>
<td>206</td>
<td>14</td>
<td>184</td>
<td>14</td>
<td>163</td>
<td>13</td>
<td>155</td>
<td>9</td>
<td>175</td>
<td>10</td>
<td>188</td>
</tr>
<tr>
<td>Gender Total</td>
<td>24</td>
<td>286</td>
<td>22</td>
<td>253</td>
<td>20</td>
<td>216</td>
<td>24</td>
<td>226</td>
<td>25</td>
<td>264</td>
<td>24</td>
<td>297</td>
</tr>
<tr>
<td>Undergraduate</td>
<td>310</td>
<td>275</td>
<td>236</td>
<td>250</td>
<td>289</td>
<td>321</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Electrical & Computer Engineering
B. Test scores (GRE, GMAT and/or TOEFL) of enrolled students

![Average GRE Scores for Enrolled Graduate Students - Fall Data (Electrical Engineering)](chart1)

C. GPA of new students

![New Graduate Students GPA by Level - Fall Data (Electrical Engineering)](chart2)
D. Time to Degree in Years – Average years to graduate for all students graduating each year

<table>
<thead>
<tr>
<th>Year</th>
<th>Master's</th>
<th>Doctorate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004-05</td>
<td>2.19</td>
<td>4.56</td>
</tr>
<tr>
<td>2005-06</td>
<td>2.35</td>
<td>4.4</td>
</tr>
<tr>
<td>2006-07</td>
<td>2.02</td>
<td>3.54</td>
</tr>
<tr>
<td>2007-08</td>
<td>1.89</td>
<td>3.55</td>
</tr>
<tr>
<td>2008-09</td>
<td>2.12</td>
<td>2.73</td>
</tr>
<tr>
<td>2009-10</td>
<td>2.21</td>
<td>3.98</td>
</tr>
</tbody>
</table>

E. Type of financial support available for graduate students

A number of our students are supported on TA positions when they start graduate school. These primarily involve grading positions and tutoring. The more experienced students will help with one of our five projects labs which is very labor intensive.

A large number of our graduate students are supported on RAs provided by a number of contracts. These provide funds in from $1,200 to $2,000 month for MS Students, and $1,600 to $2500 for PhD students.

Program for mentoring and professional preparation of graduate students

There is no formal program for mentoring of and professional preparation of graduate students. However, a number of the research groups use the more senior graduate students and PhD

Electrical & Computer Engineering
students to work with the new graduate students to bring them along in their research projects. The faculty research advisors mentor the new graduate students. There is also a required graduate seminar each semester that exposes the students to a variety of areas in the wide range of electrical engineering. There are a number of external speakers brought to campus from other universities and various industries to give the graduate students and insight into a variety career and research options. There is also and additional seminar for the students in the Program for Semiconductor Product Engineering.

**Department efforts to retain students**

The main way of retaining good graduate students rests primarily with the research advisor for each student. They are in the best position to relate to each of their students. The Director of Graduate Studies will play this role for students that have not selected an advisor and for non-thesis students. There is no formalized program, but most of our graduate students do continue and graduate.

A. Number of students who have received national and university fellowships, scholarships and other awards

<table>
<thead>
<tr>
<th>AWARD</th>
<th>04/05</th>
<th>05/06</th>
<th>06/07</th>
<th>07/08</th>
<th>08/09</th>
<th>09/10</th>
</tr>
</thead>
<tbody>
<tr>
<td>AT&amp;T Chancellors</td>
<td>$16,500</td>
<td>6</td>
<td>$18,000</td>
<td>6</td>
<td>$1,500</td>
<td>1</td>
</tr>
<tr>
<td>American-Mexican Friendship</td>
<td>$4,000</td>
<td>1</td>
<td>$4,000</td>
<td>1</td>
<td>$4,000</td>
<td>1</td>
</tr>
<tr>
<td>Health &amp; Social Services</td>
<td>$1,500</td>
<td>1</td>
<td>$4,500</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hazlewood</td>
<td>$2,300</td>
<td>1</td>
<td></td>
<td></td>
<td>$2,300</td>
<td>1</td>
</tr>
</tbody>
</table>
V. Department

A. Department operating expenses

### Department Operating Cost - Academic Year (Electrical & Computer Engineering)

Source: Institutional Research and Information Mgmt
Chart prepared by The Graduate School

<table>
<thead>
<tr>
<th></th>
<th>04/05</th>
<th>05/06</th>
<th>06/07</th>
<th>07/08</th>
<th>08/09</th>
<th>09/10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Cost</td>
<td>$444,486</td>
<td>$393,963</td>
<td>$392,616</td>
<td>$303,175</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Department Operating Costs as a Fraction of Employees

DEPARTMENT COMPLETES

<table>
<thead>
<tr>
<th></th>
<th>04/05</th>
<th>05/06</th>
<th>06/07</th>
<th>07/08</th>
<th>08/09</th>
<th>09/10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dept Operating Cost</td>
<td>$444,486</td>
<td>$393,963</td>
<td>$392,616</td>
<td>$303,175</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Faculty &amp; Staff</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dept Op Cost /FS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
B. Summary of Proposals (submitted)

Summary of Number of Proposals Written and Accepted

<table>
<thead>
<tr>
<th>DEPARTMENT COMPLETES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foundation</td>
</tr>
<tr>
<td>D</td>
</tr>
<tr>
<td>2009</td>
</tr>
<tr>
<td>2008</td>
</tr>
<tr>
<td>2007</td>
</tr>
<tr>
<td>2006</td>
</tr>
<tr>
<td>2005</td>
</tr>
<tr>
<td>2004</td>
</tr>
</tbody>
</table>

D = proposals written by CO-PI's from your department only
M = proposals written by CO-PI's from multiple departments

C. External Research expenditures

The following data were collected and tabulated from the Office of Research Services by personnel in the Graduate School. The Department has additional data that show the figures for 09/10 are grossly underreported.

SUMMARY OF FACULTY AWARDS BY HOME DEPARTMENT

<table>
<thead>
<tr>
<th>Source: Office of Research Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
</tr>
<tr>
<td>04/05</td>
</tr>
<tr>
<td>05/06</td>
</tr>
<tr>
<td>06/07</td>
</tr>
<tr>
<td>07/08</td>
</tr>
<tr>
<td>08/09</td>
</tr>
<tr>
<td>09/10</td>
</tr>
<tr>
<td>Totals:</td>
</tr>
</tbody>
</table>
Comparison of Research Expenditures

<table>
<thead>
<tr>
<th></th>
<th>04/05</th>
<th>05/06</th>
<th>06/07</th>
<th>07/08</th>
<th>08/09</th>
<th>09/10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iowa State University</td>
<td>$1,803,911.00</td>
<td>$2,064,602.00</td>
<td>$5,841,468.00</td>
<td>$4,929,411.00</td>
<td>$5,153,379.00</td>
<td>$9,650,113.00</td>
</tr>
<tr>
<td>University of Nebraska</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Texas Tech</td>
<td>$3,408,254</td>
<td>$4,812,034</td>
<td>$4,488,672</td>
<td>$8,263,847</td>
<td>$8,099,822</td>
<td>$6,091,994</td>
</tr>
</tbody>
</table>

Research Expenditures
(Electrical and Computer Engineering)

Source: Office of Research Services
Chart prepared by The Graduate School

Electrical & Computer Engineering
The following funding summary was obtained by the department from the Office of Research Services by the department.

<table>
<thead>
<tr>
<th>Name</th>
<th>Last Name</th>
<th>Total Awards 2010</th>
<th>Total F&amp;A 2010</th>
<th># of Awards 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stephen Bayne</td>
<td>Bayne</td>
<td>$4,259,982.96</td>
<td>$77,282.28</td>
<td>6.70</td>
</tr>
<tr>
<td>James Dickens</td>
<td>Dickens</td>
<td>$1,886,614.50</td>
<td>$497,596.20</td>
<td>4.70</td>
</tr>
<tr>
<td>Andreas Neuber</td>
<td>Neuber</td>
<td>$1,549,850.50</td>
<td>$410,436.00</td>
<td>2.90</td>
</tr>
<tr>
<td>Jingyu Lin</td>
<td>Lin</td>
<td>$732,876.50</td>
<td>$194,621.50</td>
<td>5.00</td>
</tr>
<tr>
<td>Hongxing Jiang</td>
<td>Jiang</td>
<td>$732,876.50</td>
<td>$194,621.50</td>
<td>5.00</td>
</tr>
<tr>
<td>Magne Kristiansen</td>
<td>Kristiansen</td>
<td>$574,024.00</td>
<td>$149,591.80</td>
<td>0.40</td>
</tr>
<tr>
<td>Sergey Nikishin</td>
<td>Nikishin</td>
<td>$428,030.00</td>
<td>$80,170.32</td>
<td>1.16</td>
</tr>
<tr>
<td>Yu-Chun Lie</td>
<td>Lie</td>
<td>$389,400.00</td>
<td>$19,552.00</td>
<td>9.00</td>
</tr>
<tr>
<td>Michael Giesselmann</td>
<td>Giesselmann</td>
<td>$278,807.96</td>
<td>$65,659.90</td>
<td>1.62</td>
</tr>
<tr>
<td>Ayrton Bernussi</td>
<td>Bernussi</td>
<td>$258,900.00</td>
<td>$58,530.36</td>
<td>0.68</td>
</tr>
<tr>
<td>Mary Baker</td>
<td>Baker</td>
<td>$226,962.60</td>
<td>$20,447.32</td>
<td>0.39</td>
</tr>
<tr>
<td>Zhaoyang Fan</td>
<td>Fan</td>
<td>$224,800.00</td>
<td>$50,960.32</td>
<td>0.16</td>
</tr>
<tr>
<td>Vittal Rao</td>
<td>Rao</td>
<td>$124,500.00</td>
<td>$0.00</td>
<td>0.30</td>
</tr>
<tr>
<td>Tanja Karp</td>
<td>Karp</td>
<td>$116,675.00</td>
<td>$0.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Brian Nutter</td>
<td>Nutter</td>
<td>$87,746.80</td>
<td>$17,295.00</td>
<td>3.50</td>
</tr>
<tr>
<td>Changzhi Li</td>
<td>Li</td>
<td>$72,387.00</td>
<td>$837.00</td>
<td>2.05</td>
</tr>
<tr>
<td>Hamed Sari-Sarraf</td>
<td>Sari-Sarraf</td>
<td>$65,051.00</td>
<td>$17,227.40</td>
<td>2.00</td>
</tr>
<tr>
<td>Timothy Dallas</td>
<td>Dallas</td>
<td>$35,087.00</td>
<td>$11,137.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Sunanda Mitra</td>
<td>Mitra</td>
<td>$25,000.00</td>
<td>$6,091.00</td>
<td>0.50</td>
</tr>
<tr>
<td>Ranadip Pal</td>
<td>Pal</td>
<td>$14,140.00</td>
<td>$2,828.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Richard Gale</td>
<td>Gale</td>
<td>$5,400.00</td>
<td>$0.00</td>
<td>0.30</td>
</tr>
<tr>
<td>Mohammad Saed</td>
<td>Saed</td>
<td>$0.00</td>
<td>$0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>John Mankowski</td>
<td>Mankowski</td>
<td>$0.00</td>
<td>$0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>+</td>
<td>Krompholz</td>
<td>$0.00</td>
<td>$0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>

| Total           |          | $12,089,112.32   | $1,874,884.9   | 49.36          |

The original data from which these numbers were obtained is include in Appendix F.
D. Internal Funding

DEPARTMENT COMPLETES

Source of Internal Funds (TTU)

<table>
<thead>
<tr>
<th>Line Items</th>
<th>04/05</th>
<th>05/06</th>
<th>06/07</th>
<th>07/08</th>
<th>08/09</th>
<th>09/10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research Enhancement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research Incentive</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Line Items</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interdisciplinary Seed Grants</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Faculty Start-ups</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Matching from VP of Research</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Special needs and opportunities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research Promotion</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Graduate School Travel Money *</td>
<td>0</td>
<td>0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$700</td>
</tr>
<tr>
<td>Graduate School Fellowships</td>
<td>$6,000</td>
<td>$12,000</td>
<td>$12,825</td>
<td>$10,000</td>
<td>$14,000</td>
<td>$8,000</td>
</tr>
<tr>
<td>HEAF</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTALS:</strong></td>
<td>$6,000</td>
<td>$12,000</td>
<td>$12,825</td>
<td>$10,000</td>
<td>$14,000</td>
<td>$8,700</td>
</tr>
</tbody>
</table>

- Graduate School Travel Money Records do not record by department before 06/07. Also, several students who traveled in 06/07 and 07/08 cannot at this time be connected to a department.
E. Scholarships and endowments

Electrical and Computer Engineering offers a number of scholarships with varying amounts. The following organizations and individuals have contributed generously to these scholarships.

- Texas Rural Electric Coop Endowment
- Steven M. and Margaret Ward Endowment
- R. H. Seacat Jr. Endowed Scholarship
- Travis L. Simpson Endowed Scholarship
- Ken Taylor Jr. Memorial Endowed Scholarship
- C. V. Bullen Endowed Scholarship
- Charles and Ruth Houston Endowment
- James G. Allen Endowed Scholarship
- Keith Norris Endowed Scholarship
- Chinese Alumni Endowed Scholarship
- Alpha Wiggins Electrical Engineering Scholarship
- William Peter Davis Memorial Endowed Scholarship
- Hicks and Ragland Engineering
- Electrical Engineering Scholarship
- Yeatts Electrical and Computer Scholarship
- Elizabeth C. Brown Memorial Endowed Scholarship
- H and G and F and M Minter Endowed Scholarship
- Burkes Electrical Computer Endowed Scholarship
- William Peter David Memorial Endowed Scholarship
- I. C. Lankford Electrical Endowed Scholarship
- Fred Montgomery Jr. Endowed Scholarship
F. Departmental resources for research and teaching (i.e., classroom space, lab facilities)

<table>
<thead>
<tr>
<th>Type of Space</th>
<th>Number of Rooms</th>
<th>Total Assignable Square Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFFICES:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Faculty &amp; Administration</td>
<td>27</td>
<td>12000</td>
</tr>
<tr>
<td>Clerical</td>
<td>7</td>
<td>3500</td>
</tr>
<tr>
<td>Graduate Assistant</td>
<td>5</td>
<td>15000</td>
</tr>
<tr>
<td>Technician</td>
<td>5</td>
<td>2000</td>
</tr>
<tr>
<td>Emeritus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LABS:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Special Instruction Labs</td>
<td>3</td>
<td>30000</td>
</tr>
<tr>
<td>Research Labs</td>
<td>10</td>
<td>20000</td>
</tr>
<tr>
<td>STORAGE:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>8000</td>
</tr>
<tr>
<td>LIBRARY:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CENTERS &amp; OTHER FACILITIES:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Office</td>
<td>2</td>
<td>20000</td>
</tr>
<tr>
<td>Lab (Instruction &amp; Research)</td>
<td>10</td>
<td>5000</td>
</tr>
<tr>
<td>TOTAL SQUARE FEET</td>
<td></td>
<td>110000</td>
</tr>
</tbody>
</table>
G. HEAF expenditures

**DEPARTMENT COMPLETES**

<table>
<thead>
<tr>
<th></th>
<th>Labs</th>
<th>Classroom</th>
<th>Other (identify)</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2006</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2004</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

H. External Program Accreditation –

The department’s bachelors level programs are accredited by the Accreditation Board for Engineering and Technology (ABET).
VI. Conclusions

No formal record is kept of the ‘success’ of our students. Although we can track a reasonable percentage of graduate students through the established centers and support programs, a majority of our graduate students never report their employment experiences. We should institute a reliable means by which to track these important data.

The department will be challenged to maintain and expand the record of extramural funding over the last year. It is important that we do so to play our part in the challenge to attain Tier I research university status. Fortunately, the department has strong industrial partners who see advantage in our success.

The biggest challenge in the near term is to continue our growth in the face of statewide budget shortfalls. We sincerely hope that the responsibility-centered management program will be successful in returning funds to those organizations which generate them, and eliminate those programs and organizations that are peripheral to the mission profile of the university.

We will face additional challenges in terms of instructional and laboratory space. We have four small classrooms and two larger lecture halls. The university has essentially taken over the larger lecture halls for other instructional programs. The space freed up by the move of the College of Mass Communications should help in this challenge. The specific needs of electrical engineering laboratories will make this expansion expensive.

We have done well in our recent hires but will be challenged to maintain this record, especially if university funding for start-up packages is reduced. The university level funding aimed at graduate recruiting will help.
VII. Appendices – should include, but not be limited to, the following:

A. Strategic Plan
B. Graduate Course Offerings
C. Graduate Student Handbook
D. Graduate Student Association(s)
E. Graduate Faculty Information
F. Funding Records 2010
APPENDIX A

Strategic Plan

Our departmental strategic plan is located at the following website:
http://www.depts.ttu.edu/ece/Department/strategicplan.php
APPENDIX B

Graduate Course Offerings

Our graduate course offerings are located at the following website:
www.depts.ttu.edu/officialpublications/courses/HIST.html.
5120. Electrical Engineering Graduate Seminar (1:1:0). Discussion will concern present research conducted in electrical engineering and other topics of interest to electrical engineers.

5310. Introduction to VLSI Design (3:2:3). A basic introduction to very large-scale integrated (VLSI) design of circuits and devices. Geometrical patterns of semiconductor devices on a chip, MOS circuits, masking and patterning, and automation tools.


5316. Power Electronics (3:3:0). Switch mode power conversion, converters and inverters, power supplies and regulators, and power semiconductor circuits.


5323. Modern Communication Circuits (3:3:0). Analysis and design techniques for modern communication circuits.

5324. Computer-Aided Circuit Analysis (3:3:0). Development, implementation, and application of advanced circuit models for the design of integrated circuits. Designed to enhance design skills through direct application of computer-aided analysis tools.


5331. Individual Studies in Engineering Applications (3:3:0). Prerequisite: Graduate standing in engineering and consent of instructor. An individual study course involving a rigorous theoretical investigation of some aspect of an engineering problem of current interest. A formal report is required. May be repeated for credit.

5332. Topics in Electrical Engineering (3:3:0). The course will elaborate on a special topic of current interest in electrical engineering. May be repeated for credit.


5343. Power Systems Engineering (3:3:0). Electrical power transmission and distribution systems; power generation systems; system modeling, planning, management and protection.

5345. Pulsed Power (3:3:0). Fundamentals of pulsed power circuits, components, and systems. Pulse forming lines, energy storage, voltage multipliers, switching, materials, grounding and shielding, measurements, and applications.

5350. Introduction to Medical Instrumentation (3:3:0). Biomedical instrumentation, transducers, signals, circuits and filters, utilization of biopotential techniques in respiration, cardiac, and audiology.


5352. Medical Imaging (3:3:0). Medical imaging techniques including radiography and ionizing radiation, computer aided tomography, PET, MRI, and image reconstruction and processing techniques.


5360. Fiber Optic Systems (3:3:0). Optical fibers, couplers, sources, and detectors; applications to communications and sensing. Integrated optics.


5363. Pattern Recognition (3:3:0). Foundational topics in pattern recognition. Linear discriminant functions, support vector machines, generalized decision functions, Bayes classifier, and various clustering techniques.


5371. Engineering Analysis (3:3:0). Prerequisite: MATH 3350 or its equivalent. Application of mathematical methods and algorithms to engineering problems, stochastic linear system models, vector spaces and operators, orthogonality principle and its applications, adaptive filtering, matrix factorizational application of eigendecomposition methods.


5381. Introduction to Semiconductor Processing (3:2:3). Introduction to the physical principles, techniques, and technologies involved with the fabrication of very large scale integrated circuits (VLSI).


5385. Introduction to Microsystems I (3:3:0). Fundamentals of microelectromechanical (MEMS) and microfluidic systems. Project-based course introduces basic microsystem design, analysis, simulation, and manufacture through several case studies using representative devices.

5386. Introduction to Microsystems II (3:3:0). Prerequisite: ECE 4385 or 5385. Application of microfabrication to create microsensor systems. Integration of optics, optoelectronics and microfluids. Includes other MEMS projects.

6000. **Master’s Thesis (V1-6).**

6351. **Physical Electronics (3:3:0).** Prerequisite: ECE 5352 or consent of instructor. Fundamentals of solid state physics relevant to device applications. Semiconductors, dielectrics, ferroelectricity, ferromagnetics, and superconductors. Laser devices, applications, and engineering of lasers.

6360. **Computer Vision and Image Reconstruction (3:3:0).** Theories of image formation and reconstruction. Reconstruction problems in tomography, magnetic resonance imaging, synthetic aperture radar, and other modalities of imaging.

6363. **Advanced Pattern Recognition (3:3:0).** Prerequisite: ECE 4363 or 5363. Adaptive approaches to the design of discriminate functions for pattern classification and recognition. Statistical, syntactic, neural networks, and fuzzy-set based optimization constraints for discriminants.

6365. **Topics in Advanced Communications (3:3:0).** Applications of detection and estimation theory in the design of optimum communication systems.

7000. **Research (V1-12).**

8000. **Doctor's Dissertation (V1-12).**
APPENDIX C

Graduate Student Handbook

DEPARTMENT SUPPLIES COPY OF THE HANDBOOK

-OR-

PROVIDES A STATEMENT SUCH AS:
Our graduate student handbook is not yet in place, but will be based upon the faculty handbook that we created last semester. –OR- Our graduate student handbook can be viewed at www.webaddress.ttu.edu
APPENDIX D

Graduate Student Association(s)

DEPARTMENT WRITES a description and information about their Graduate Student Association(s)

-OR-

PROVIDES A STATEMENT SUCH AS: Our department does not have a Graduate Student Association – only an undergraduate one -OR- The first Graduate Student Association is being formed this year… -OR- Our department had a Graduate Student Association from 1995 until 1999, but disbanded because…
APPENDIX E

Graduate Faculty Information

--See separate faculty pages--
APPENDIX F

Funding Records 2010
## TEXAS TECH UNIVERSITY
Summary of Awards

01/01/2010 to 12/31/2010

### College of Engineering

### Electrical and Computer Engr

<table>
<thead>
<tr>
<th>Proposal No.</th>
<th>Project Type: Research, Restricted</th>
<th>International Component?</th>
<th>Project Period</th>
<th>Agency:</th>
</tr>
</thead>
<tbody>
<tr>
<td>103543</td>
<td></td>
<td>&amp;</td>
<td>01/01/2009 - 12/31/2012</td>
<td>Texas Instruments Foundation</td>
</tr>
<tr>
<td>Title:</td>
<td>Analog Design Research for TI</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investigator</td>
<td>Lie, Yu-Chun D</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Credit</td>
<td>100.00%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ORS Log Date</td>
<td>03/23/2010</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recovery Type</td>
<td>NR Mandatory</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rate</td>
<td>0.00%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amount</td>
<td>$0.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Award Amt Credited</td>
<td>$75,000.00</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Credited Total Costs:**

|                      | $0.00 | $75,000.00 |

<table>
<thead>
<tr>
<th>Proposal No.</th>
<th>Project Type: Research, Restricted</th>
<th>International Component?</th>
<th>Project Period</th>
<th>Agency:</th>
</tr>
</thead>
<tbody>
<tr>
<td>104001</td>
<td></td>
<td>&amp;</td>
<td>01/01/2010 - 12/31/2010</td>
<td>Industrial Technology Research Institute</td>
</tr>
<tr>
<td>Title:</td>
<td>Highly-efficient and Linear Wideband Polar Transmitter with Integrated Power Amplifiers for WiMAX-like Wireless Applications</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investigator</td>
<td>Lie, Yu-Chun D</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Credit</td>
<td>100.00%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ORS Log Date</td>
<td>07/30/2010</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recovery Type</td>
<td>FR On Campus</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rate</td>
<td>46.50%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amount</td>
<td>$6,763.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Award Amt Credited</td>
<td>$30,000.00</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Credited Total Costs:**

|                      | $6,763.00 | $30,000.00 |

<table>
<thead>
<tr>
<th>Proposal No.</th>
<th>Project Type: Research, Restricted</th>
<th>International Component?</th>
<th>Project Period</th>
<th>Agency:</th>
</tr>
</thead>
<tbody>
<tr>
<td>104866</td>
<td></td>
<td>&amp;</td>
<td>05/02/2010 - 12/31/2011</td>
<td>DOD/NoiseFigure, LLC</td>
</tr>
<tr>
<td>Title:</td>
<td>MDA STTR MDA09-T004 Low Cost, High Performance Transmit/Receive ICs (TRIC) on a Single Chip</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investigator</td>
<td>Lie, Yu-Chun D</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Credit</td>
<td>100.00%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ORS Log Date</td>
<td>10/27/2010</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recovery Type</td>
<td>FR On Campus</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rate</td>
<td>47.00%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amount</td>
<td>$12,789.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Award Amt Credited</td>
<td>$40,000.00</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Credited Total Costs:**

<p>|                      | $12,789.00 | $40,000.00 |</p>
<table>
<thead>
<tr>
<th>Key to Facilities and Administrative Costs Recovery Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrative Fee = Administrative fee assessed in lieu of F&amp;A</td>
</tr>
<tr>
<td>FR Off Campus = Full Recovery, Off Campus Rate</td>
</tr>
<tr>
<td>FR On Campus = Full Recovery, On Campus Rate</td>
</tr>
<tr>
<td>FR On-Off Combined = Full Recovery, On Campus/Off Campus Combination</td>
</tr>
<tr>
<td>NR Voluntary = No Recovery, Voluntary Waiver</td>
</tr>
<tr>
<td>NR Mandatory = No Recovery, Mandatory by sponsor policy</td>
</tr>
<tr>
<td>Reduced Voluntary = Amount voluntarily reduced</td>
</tr>
<tr>
<td>Reduced Mandatory = Amount reduced by sponsor policy</td>
</tr>
<tr>
<td>NR Other No Budget = Non-monetary or other awards not budgeted</td>
</tr>
</tbody>
</table>
## College of Engineering

### Electrical and Computer Engr

<table>
<thead>
<tr>
<th>Proposal No.</th>
<th>Project Type</th>
<th>International Component?</th>
<th>Project Period</th>
<th>Facilities and Administrative Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>104404</td>
<td>Research, Restricted</td>
<td>Yes</td>
<td>08/01/2010 - 07/31/2011</td>
<td>Li, Changzhi</td>
</tr>
</tbody>
</table>

### Facility and Administrative Costs

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Li, Changzhi</td>
<td>100.00%</td>
<td>08/18/2010</td>
<td>NR Mandatory</td>
<td>0.00%</td>
<td>$0.00</td>
<td>$49,000.00</td>
</tr>
</tbody>
</table>

### Credited Total Costs:

<table>
<thead>
<tr>
<th>Proposal No.</th>
<th>Project Type</th>
<th>International Component?</th>
<th>Project Period</th>
<th>Facilities and Administrative Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>104439</td>
<td>Research, Restricted</td>
<td>Yes</td>
<td>10/01/2010 - 09/30/2013</td>
<td>Li, Changzhi</td>
</tr>
</tbody>
</table>

### Facility and Administrative Costs

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Li, Changzhi</td>
<td>5.00%</td>
<td>09/14/2010</td>
<td>NR Mandatory</td>
<td>0.00%</td>
<td>$0.00</td>
<td>$20,750.00</td>
</tr>
</tbody>
</table>

### Credited Total Costs:

<table>
<thead>
<tr>
<th>Proposal No.</th>
<th>Project Type</th>
<th>International Component?</th>
<th>Project Period</th>
<th>Facilities and Administrative Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>104362</td>
<td>Research, Restricted</td>
<td>Yes</td>
<td>03/15/2010 - 12/31/2010</td>
<td>Li, Changzhi</td>
</tr>
</tbody>
</table>

### Facility and Administrative Costs

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Li, Changzhi</td>
<td>100.00%</td>
<td>03/09/2010</td>
<td>FR On Campus</td>
<td>46.50%</td>
<td>$837.00</td>
<td>$2,637.00</td>
</tr>
</tbody>
</table>

### Credited Total Costs:

| No. of awards for Electrical and Computer Engr | 2.05 |
| Credited Amounts, F&A and awarded | F&A Amount: $837.00 | Award Amount: $72,387.00 |

| No of awards for College of Engineering | 2.05 |
| Credited Amounts, F&A and awarded | F&A Amount: $837.00 | Award Amount: $72,387.00 |
TEXAS TECH UNIVERSITY
Summary of Awards
01/01/2010 to 12/31/2010

OVERALL TOTAL NUMBER OF AWARDS: 2.05

OVERALL TOTAL AMOUNTS, F&A AND AWARDS: $837.00 $72,387.00

Key to Facilities and Administrative Costs Recovery Type

Administrative Fee = Administrative fee assessed in lieu of F&A
FR Off Campus = Full Recovery, Off Campus Rate
FR On Campus = Full Recovery, On Campus Rate
FR On-Off Combined = Full Recovery, On Campus/Off Campus Combination
NR Voluntary = No Recovery, Voluntary Waiver
NR Mandatory = No Recovery, Mandatory by sponsor policy
Reduced Voluntary = Amount voluntarily reduced
Reduced Mandatory = Amount reduced by sponsor policy
NR Other No Budget = Non-monetary or other awards not budgeted
# TEXAS TECH UNIVERSITY
## Summary of Awards
### 01/01/2010 to 12/31/2010

### College of Engineering

#### Electrical and Computer Engr

<table>
<thead>
<tr>
<th>Proposal No.</th>
<th>Project Type</th>
<th>International Component?</th>
<th>Project Period</th>
<th>Facilities and Administrative Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>104404</td>
<td>Research, Restricted</td>
<td>N</td>
<td>08/01/2010 - 07/31/2011</td>
<td><strong>Award Amt Credited</strong></td>
</tr>
<tr>
<td><strong>Title:</strong></td>
<td>High Accuracy All-CMOS Temperature Sensor with Low-voltage Low-power Subthreshold MOSFETs Front-end and Performance-enhancement Techniques</td>
<td></td>
<td></td>
<td><strong>$49,000.00</strong></td>
</tr>
<tr>
<td><strong>Agency:</strong></td>
<td>Semiconductor Research Corporation/UT Dallas</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Investigator:</strong></td>
<td><strong>Credit</strong></td>
<td><strong>ORS Log Date</strong></td>
<td><strong>Recovery Type</strong></td>
<td><strong>Rate</strong></td>
</tr>
<tr>
<td>Li, Changzhi</td>
<td>100.00%</td>
<td>08/18/2010</td>
<td>NR Mandatory</td>
<td>0.00%</td>
</tr>
</tbody>
</table>

**Credited Total Costs:**

<table>
<thead>
<tr>
<th>Proposal No.</th>
<th>Project Type</th>
<th>International Component?</th>
<th>Project Period</th>
<th>Facilities and Administrative Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>104439</td>
<td>Research, Restricted</td>
<td>N</td>
<td>10/01/2010 - 09/30/2013</td>
<td><strong>Award Amt Credited</strong></td>
</tr>
<tr>
<td><strong>Title:</strong></td>
<td>MRI-Development of Real Time Simulator for Smart Grid Systems Integrated with Distributed Renewable Energy Sources</td>
<td></td>
<td></td>
<td><strong>$20,750.00</strong></td>
</tr>
<tr>
<td><strong>Agency:</strong></td>
<td>Ntl Science Foundation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Investigator:</strong></td>
<td><strong>Credit</strong></td>
<td><strong>ORS Log Date</strong></td>
<td><strong>Recovery Type</strong></td>
<td><strong>Rate</strong></td>
</tr>
<tr>
<td>Li, Changzhi</td>
<td>5.00%</td>
<td>09/14/2010</td>
<td>NR Mandatory</td>
<td>0.00%</td>
</tr>
</tbody>
</table>

**Credited Total Costs:**

<table>
<thead>
<tr>
<th>Proposal No.</th>
<th>Project Type</th>
<th>International Component?</th>
<th>Project Period</th>
<th>Facilities and Administrative Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>104362</td>
<td>Research, Restricted</td>
<td>N</td>
<td>03/15/2010 - 12/31/2010</td>
<td><strong>Award Amt Credited</strong></td>
</tr>
<tr>
<td><strong>Title:</strong></td>
<td>MicroChip PIC Micro-controller Based Web-server for Software-defined RFIC Configuration</td>
<td></td>
<td></td>
<td><strong>$2,637.00</strong></td>
</tr>
<tr>
<td><strong>Agency:</strong></td>
<td>Effective RF Solutions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Investigator:</strong></td>
<td><strong>Credit</strong></td>
<td><strong>ORS Log Date</strong></td>
<td><strong>Recovery Type</strong></td>
<td><strong>Rate</strong></td>
</tr>
<tr>
<td>Li, Changzhi</td>
<td>100.00%</td>
<td>03/09/2010</td>
<td>FR On Campus</td>
<td>46.50%</td>
</tr>
</tbody>
</table>

**Credited Total Costs:**

---

**No. of awards for Electrical and Computer Engr Credited Amounts, F&A and awarded:**

<table>
<thead>
<tr>
<th><strong>No.</strong></th>
<th><strong>F&amp;A Amount</strong></th>
<th><strong>Award Amount</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>2.05</td>
<td>$837.00</td>
<td>$72,387.00</td>
</tr>
</tbody>
</table>

**No of awards for College of Engineering Credited Amounts, F&A and awarded:**

<table>
<thead>
<tr>
<th><strong>No.</strong></th>
<th><strong>F&amp;A Amount</strong></th>
<th><strong>Award Amount</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>2.05</td>
<td>$837.00</td>
<td>$72,387.00</td>
</tr>
<tr>
<td>Key to Facilities and Administrative Costs Recovery Type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------------------------------------------</td>
<td>---------</td>
<td>---------</td>
</tr>
<tr>
<td>Administrative Fee = Administrative fee assessed in lieu of F&amp;A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FR Off Campus = Full Recovery, Off Campus Rate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FR On Campus = Full Recovery, On Campus Rate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FR On-Off Combined = Full Recovery, On Campus/Off Campus Combination</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NR Voluntary = No Recovery, Voluntary Waiver</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NR Mandatory = No Recovery, Mandatory by sponsor policy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reduced Voluntary = Amount voluntarily reduced</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reduced Mandatory = Amount reduced by sponsor policy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NR Other No Budget = Non-monetary or other awards not budgeted</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# Texas Tech University
## Summary of Awards

**Date Range:** 01/01/2010 to 12/31/2010

### College of Engineering

**Electrical and Computer Engr**

- **Proposal No.:** 104658  
- **Project Type:** Research, Restricted
- **Title:** Retrieval Annotation and Storage of BCWT-Coded Images
- **Agency:** Ntl Library of Medicine

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutter, Brian S</td>
<td>50.00%</td>
<td>08/15/2010</td>
<td>FR On Campus</td>
<td>47.00%</td>
<td>$6,091.00</td>
<td>$25,000.00</td>
</tr>
</tbody>
</table>

**Facilities and Administrative Costs**

<table>
<thead>
<tr>
<th>Facilities</th>
<th>2.70 F&amp;A Amount</th>
<th>Award Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$15,855.00</td>
<td>$79,746.80</td>
</tr>
</tbody>
</table>

### Other Units and Activities

**Wind Sci & Engr Research Ctr (Ind)**

- **Proposal No.:** 102422  
- **Project Type:** Research, Restricted
- **Title:** RET SUPPLEMENT: Hyperspectral Imagery: A New Frontier for Windstorm Damage Assessment
- **Agency:** Ntl Science Foundation

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutter, Brian S</td>
<td>80.00%</td>
<td>08/26/2010</td>
<td>Reduced Mandatory</td>
<td>25.00%</td>
<td>$1,440.00</td>
<td>$8,000.00</td>
</tr>
</tbody>
</table>

**Facilities and Administrative Costs**

<table>
<thead>
<tr>
<th>Facilities</th>
<th>0.80 F&amp;A Amount</th>
<th>Award Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$1,440.00</td>
<td>$8,000.00</td>
</tr>
</tbody>
</table>

### Awards Total:

- **Overall Total Number of Awards:** 3.50
### College of Engineering

#### Electrical and Computer Engnr

<table>
<thead>
<tr>
<th>Proposal No.</th>
<th>Project Type</th>
<th>International Component</th>
<th>Project Period</th>
<th>Project</th>
<th>Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>104303</td>
<td>Research, Restricted</td>
<td>N</td>
<td>01/01/2010 - 08/31/2010</td>
<td>N</td>
<td></td>
</tr>
</tbody>
</table>

**Title:** Efficient Burst OFDM  
**Agency:** Innovative Integration

**Investigator**  
Nutter, Brian S  
Credit: 100.00%  
ORS Log Date: 04/12/2010  
Recovery Type: FR On Campus  
Rate: 46.50%  
Amount: $7,718.00  
Award Amt Credited: $27,719.00

**Credited Total Costs:**  
$7,718.00  
$27,719.00

---

<table>
<thead>
<tr>
<th>Proposal No.</th>
<th>Project Type</th>
<th>International Component</th>
<th>Project Period</th>
<th>Project</th>
<th>Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>104303</td>
<td>Research, Restricted</td>
<td>N</td>
<td>01/01/2010 - 11/30/2010</td>
<td>N</td>
<td></td>
</tr>
</tbody>
</table>

**Title:** Low Voltage I/O Modeling  
**Agency:** Innovative Integration

**Investigator**  
Nutter, Brian S  
Credit: 100.00%  
ORS Log Date: 11/08/2010  
Recovery Type: FR On Campus  
Rate: 46.50%  
Amount: $2,046.00  
Award Amt Credited: $6,446.00

**Credited Total Costs:**  
$2,046.00  
$6,446.00

---

<table>
<thead>
<tr>
<th>Proposal No.</th>
<th>Project Type</th>
<th>International Component</th>
<th>Project Period</th>
<th>Project</th>
<th>Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>104689</td>
<td>Research, Restricted</td>
<td>N</td>
<td>09/15/2010 - 02/28/2011</td>
<td>N</td>
<td></td>
</tr>
</tbody>
</table>

**Title:** MRI RAPID: Acquisition of a Field Spectroscopy Environmental Analysis System for Gulf Oil Spill Research  
**Agency:** Ntl Science Foundation

**Investigator**  
Nutter, Brian S  
Credit: 20.00%  
ORS Log Date: 09/13/2010  
Recovery Type: FR On Campus  
Rate: 0.00%  
Amount: $0.00  
Award Amt Credited: $20,581.80

**Credited Total Costs:**  
$0.00  
$20,581.80
**TEXAS TECH UNIVERSITY**

**Summary of Awards**

01/01/2010 to 12/31/2010

- Reduced Mandatory = Amount reduced by sponsor policy
- NR Other No Budget = Non-monetary or other awards not budgeted
# TEXAS TECH UNIVERSITY
## Summary of Awards
### 01/01/2010 to 12/31/2010

### College of Engineering

#### Nano Tech Center

<table>
<thead>
<tr>
<th>Proposal No.</th>
<th>Project Type: Research, Restricted</th>
<th>International Component</th>
<th>Project Period</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>101178</td>
<td></td>
<td>N</td>
<td>06/15/2006 - 05/31/2011</td>
<td></td>
</tr>
<tr>
<td>Title</td>
<td>ANN/NIIT: Nano-Engineering Efficient Optoelectronic Devices</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agency</td>
<td>Nti Science Foundation</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Facilities and Administrative Costs**

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bernussi, Ayrton</td>
<td>50.00%</td>
<td>04/02/2010</td>
<td>Reduced Mandatory</td>
<td>25.00%</td>
<td>$1,200.00</td>
<td>$6,000.00</td>
</tr>
</tbody>
</table>

**Credited Total Costs:**

<table>
<thead>
<tr>
<th></th>
<th>$1,200.00</th>
<th>$6,000.00</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Proposal No.</th>
<th>Project Type: Research, Restricted</th>
<th>International Component</th>
<th>Project Period</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>102148</td>
<td></td>
<td>N</td>
<td>08/31/2010 - 08/31/2011</td>
<td></td>
</tr>
<tr>
<td>Title</td>
<td>Nanophotonics Devices Research</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agency</td>
<td>U.S. Army</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Facilities and Administrative Costs**

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bernussi, Ayrton</td>
<td>18.00%</td>
<td>08/05/2010</td>
<td>FR On Campus</td>
<td>46.50%</td>
<td>$57,330.36</td>
<td>$252,900.00</td>
</tr>
</tbody>
</table>

**Credited Total Costs:**

<table>
<thead>
<tr>
<th></th>
<th>$57,330.36</th>
<th>$252,900.00</th>
</tr>
</thead>
</table>

**No. of awards for** Nano Tech Center

Credited Amounts, F&A and awarded

0.68

**F&A Amount** $85,530.36

**Award Amount** $258,900.00

**No of awards for** College of Engineering

Credited Amounts, F&A and awarded

0.68

**F&A Amount** $85,530.36

**Award Amount** $258,900.00

**OVERALL TOTAL NUMBER OF AWARDS:** 0.68

**OVERALL TOTAL AMOUNTS, F&A AND AWARDS:** $58,530.36 $258,900.00

**Key to Facilities and Administrative Costs Recovery Type**

Administrative Fee = Administrative fee assessed in lieu of F&A
FR Off Campus = Full Recovery, Off Campus Rate
FR On Campus = Full Recovery, On Campus Rate
FR On-Off Combined = Full Recovery, On Campus/Off Campus Combination
NR Voluntary = No Recovery, Voluntary Waiver
NR Mandatory = No Recovery, Mandatory by sponsor policy
Reduced Voluntary = Amount voluntarily reduced
<table>
<thead>
<tr>
<th>TEXAS TECH UNIVERSITY</th>
<th>Summary of Awards</th>
</tr>
</thead>
<tbody>
<tr>
<td>01/01/2010 to 12/31/2010</td>
<td></td>
</tr>
</tbody>
</table>

 NR Mandatory = No Recovery, Mandatory by sponsor policy  
 Reduced Voluntary = Amount voluntarily reduced  
 Reduced Mandatory = Amount reduced by sponsor policy  
 NR Other No Budget = Non-monetary or other awards not budgeted
## TEXAS TECH UNIVERSITY
### Summary of Awards

**01/01/2010 to 12/31/2010**

---

### Other Units and Activities

#### Wind Sci & Engr Research Ctr (Ind)

- **Proposal No:** 101368  
  **Project Type:** Research, Restricted  
  **International Component?** N  
  **Project Period:** 09/01/2010 - 08/31/2012

**Title:** TTU FY 11 Great Plains Wind Power Test Facility (DOE FY10)

**Agency:** U.S. Department of Energy

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swift, Andrew H</td>
<td>8.00%</td>
<td>09/01/2010</td>
<td>FR On Campus</td>
<td>46.50%</td>
<td>$45,131.68</td>
<td>$160,000.00</td>
</tr>
</tbody>
</table>

| Proposal No: 102699  
**Project Type:** Research, Restricted  
**International Component?** N  
**Project Period:** 10/31/2008 - 04/02/2010

**Title:** Wind Resource Measurements in Support of Integrated Wind-Water Systems and Education/Training Applications

**Agency:** State Energy Conservation Office

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swift, Andrew H</td>
<td>25.00%</td>
<td>04/02/2010</td>
<td>NR Mandatory</td>
<td>0.00%</td>
<td>$0.00</td>
<td>-$12,500.00</td>
</tr>
<tr>
<td>Swift, Andrew H</td>
<td>25.00%</td>
<td>01/04/2010</td>
<td>NR Mandatory</td>
<td>0.00%</td>
<td>$0.00</td>
<td>$12,500.00</td>
</tr>
</tbody>
</table>

### Credited Total Costs:

<table>
<thead>
<tr>
<th></th>
<th>Credited Total Costs:</th>
</tr>
</thead>
<tbody>
<tr>
<td>FR On Campus</td>
<td>$45,131.68</td>
</tr>
<tr>
<td>NR Mandatory</td>
<td>$0.00</td>
</tr>
</tbody>
</table>

### No. of awards for Wind Sci & Engr Research Ctr (Ind)

Credited Amounts, F&A and awarded: 1.04

F&A Amount = $89,843.36
Award Amount = $366,555.44

---

### No. of awards for Other Units and Activities

Credited Amounts, F&A and awarded: 1.04

F&A Amount = $89,843.36
Award Amount = $366,555.44

---

### OVERALL TOTAL NUMBER OF AWARDS:

1.29

### OVERALL TOTAL AMOUNTS,F&A AND AWARDS:

$89,843.36  
$366,555.44

---

### Key to Facilities and Administrative Costs Recovery Type

- Administrative Fee = Administrative fee assessed in lieu of F&A
- FR Off Campus = Full Recovery, Off Campus Rate
- FR On Campus = Full Recovery, On Campus Rate
- FR On-Off Combined = Full Recovery, On Campus/Off Campus Combination
- NR Voluntary = No Recovery, Voluntary Waiver
## College of Engineering

### Civil and Environmental Engineering

<table>
<thead>
<tr>
<th>Proposal No:</th>
<th>104776</th>
<th>Project Type:</th>
<th>Research, Restricted</th>
<th>International Component?</th>
<th>Project Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title:</td>
<td>Energy Storage Primer</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agency:</td>
<td>Power Across Texas</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swift ,Andrew H</td>
<td>25.00%</td>
<td>09/24/2010</td>
<td>NR Mandatory</td>
<td>0.00%</td>
<td>$0.00</td>
<td>$2,750.00</td>
</tr>
</tbody>
</table>

### Other Units and Activities

#### Wind Sci & Engr Research Ctr (Ind)

<table>
<thead>
<tr>
<th>Proposal No:</th>
<th>101368</th>
<th>Project Type:</th>
<th>Research, Restricted</th>
<th>International Component?</th>
<th>Project Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title:</td>
<td>FY 10 Great Plains Wind Power Test Facility</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agency:</td>
<td>U.S. Department of Energy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swift ,Andrew H</td>
<td>8.00%</td>
<td>01/15/2010</td>
<td>FR On Campus</td>
<td>46.50%</td>
<td>$3,001.04</td>
<td>$16,000.00</td>
</tr>
<tr>
<td>Swift ,Andrew H</td>
<td>8.00%</td>
<td>01/29/2010</td>
<td>FR On Campus</td>
<td>46.50%</td>
<td>$38,995.04</td>
<td>$136,239.84</td>
</tr>
</tbody>
</table>

### Other Units and Activities

#### Wind Sci & Engr Research Ctr (Ind)

<table>
<thead>
<tr>
<th>Proposal No:</th>
<th>104021</th>
<th>Project Type:</th>
<th>Training/Instruction</th>
<th>International Component?</th>
<th>Project Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title:</td>
<td>Summer Merit Program: Wind Energy and STEM Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agency:</td>
<td>Texas Workforce Commission</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swift ,Andrew H</td>
<td>30.00%</td>
<td>03/31/2010</td>
<td>Reduced Mandatory</td>
<td>5.26%</td>
<td>$2,715.60</td>
<td>$54,315.60</td>
</tr>
</tbody>
</table>

### Other Units and Activities

#### Wind Sci & Engr Research Ctr (Ind)

<table>
<thead>
<tr>
<th>Proposal No:</th>
<th>104021</th>
<th>Project Type:</th>
<th>Training/Instruction</th>
<th>International Component?</th>
<th>Project Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title:</td>
<td>Summer Merit Program: Wind Energy and STEM Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agency:</td>
<td>Texas Workforce Commission</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swift ,Andrew H</td>
<td>30.00%</td>
<td>03/31/2010</td>
<td>Reduced Mandatory</td>
<td>5.26%</td>
<td>$2,715.60</td>
<td>$54,315.60</td>
</tr>
</tbody>
</table>

### Other Units and Activities

#### Wind Sci & Engr Research Ctr (Ind)

<table>
<thead>
<tr>
<th>Proposal No:</th>
<th>104021</th>
<th>Project Type:</th>
<th>Training/Instruction</th>
<th>International Component?</th>
<th>Project Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title:</td>
<td>Summer Merit Program: Wind Energy and STEM Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agency:</td>
<td>Texas Workforce Commission</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swift ,Andrew H</td>
<td>30.00%</td>
<td>03/31/2010</td>
<td>Reduced Mandatory</td>
<td>5.26%</td>
<td>$2,715.60</td>
<td>$54,315.60</td>
</tr>
</tbody>
</table>
### College of Engineering

#### Ctr for Pulsed Pwr, Pwr Electronics

<table>
<thead>
<tr>
<th>Proposal No.</th>
<th>Type</th>
<th>International Component?</th>
<th>Project Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>102480</td>
<td>Research, Restricted</td>
<td>N</td>
<td>03/01/2008 - 01/31/2011</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neuber, Andreas A</td>
<td>50.00%</td>
<td>11/11/2010</td>
<td>FR On Campus</td>
<td>46.50%</td>
<td>$2,310.00</td>
<td>$7,783.00</td>
</tr>
<tr>
<td>Neuber, Andreas A</td>
<td>50.00%</td>
<td>02/04/2010</td>
<td>FR On Campus</td>
<td>46.50%</td>
<td>$31,761.00</td>
<td>$106,741.00</td>
</tr>
</tbody>
</table>

**Credited Total Costs:**

<p>| | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of awards for</td>
<td>Ctr for Pulsed Pwr, Pwr Electronics</td>
<td>2.90</td>
<td>F&amp;A Amount</td>
<td>$410,436.00</td>
<td>Award Amount</td>
<td>$1,549,850.50</td>
</tr>
<tr>
<td>Credited Amounts, F&amp;A and awarded</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| No of awards for   | College of Engineering | 2.9 | F&A Amount | $410,436.00 | Award Amount | $1,549,850.50 |
| Credited Amounts, F&A and awarded |         |             |               |       |            |             |

**OVERALL TOTAL NUMBER OF AWARDS:**

2.90

**OVERALL TOTAL AMOUNTS, F&A AND AWARDS:**

$410,436.00  
$1,549,850.50

---

**Key to Facilities and Administrative Costs Recovery Type**

- Administrative Fee = Administrative fee assessed in lieu of F&A
- FR Off Campus = Full Recovery, Off Campus Rate
- FR On Campus = Full Recovery, On Campus Rate
- FR On-Off Combined = Full Recovery, On Campus/Off Campus Combination
- NR Voluntary = No Recovery, Voluntary Waiver
- NR Mandatory = No Recovery, Mandatory by sponsor policy
- Reduced Voluntary = Amount voluntarily reduced
- Reduced Mandatory = Amount reduced by sponsor policy
- NR Other No Budget = Non-monetary or other awards not budgeted
<table>
<thead>
<tr>
<th>College of Engineering</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ctr for Pulsed Pwr, Pwr Electronics</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Proposal No: 100733</th>
<th>Project Type: Research, Restricted</th>
<th>International Component?</th>
<th>Project Period</th>
<th>Facilities and Administrative Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title: Compact Pulsed Power for Defense Applications</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agency: US Army Space &amp; Missile Defense Command</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investigator</td>
<td>Credit</td>
<td>ORS Log Date</td>
<td>Recovery Type</td>
<td>Rate</td>
</tr>
<tr>
<td>Neuber, Andreas A</td>
<td>40.00%</td>
<td>04/26/2010</td>
<td>FR On Campus</td>
<td>46.50%</td>
</tr>
<tr>
<td>Neuber, Andreas A</td>
<td>40.00%</td>
<td>04/22/2010</td>
<td>FR On Campus</td>
<td>46.50%</td>
</tr>
</tbody>
</table>

**Credited Total Costs:**

<table>
<thead>
<tr>
<th>Proposal No: 103130</th>
<th>Project Type: Research, Restricted</th>
<th>International Component?</th>
<th>Project Period</th>
<th>Facilities and Administrative Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title: Counter HPM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agency: AFOSR/University of Wisconsin</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investigator</td>
<td>Credit</td>
<td>ORS Log Date</td>
<td>Recovery Type</td>
<td>Rate</td>
</tr>
<tr>
<td>Neuber, Andreas A</td>
<td>60.00%</td>
<td>03/03/2010</td>
<td>FR On Campus</td>
<td>46.50%</td>
</tr>
</tbody>
</table>

**Credited Total Costs:**

<table>
<thead>
<tr>
<th>Proposal No: 104478</th>
<th>Project Type: Research, Restricted</th>
<th>International Component?</th>
<th>Project Period</th>
<th>Facilities and Administrative Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title: Lightning Bug Project Support</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agency: DOD/General Dynamics Advanced Information Systems</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investigator</td>
<td>Credit</td>
<td>ORS Log Date</td>
<td>Recovery Type</td>
<td>Rate</td>
</tr>
<tr>
<td>Neuber, Andreas A</td>
<td>50.00%</td>
<td>08/30/2010</td>
<td>FR On Campus</td>
<td>46.50%</td>
</tr>
</tbody>
</table>

**Credited Total Costs:**
### College of Engineering

**Electrical and Computer Engr**

<table>
<thead>
<tr>
<th>Proposal No</th>
<th>Project Type</th>
<th>International Component</th>
<th>Project Period</th>
<th>Title</th>
<th>Agency</th>
</tr>
</thead>
<tbody>
<tr>
<td>104398</td>
<td>Research, Restricted</td>
<td>N</td>
<td>08/01/2010 - 07/31/2011</td>
<td>P12079 Ultra-lowpower Analog Front-end IC Design for Implantable Cardioverter Defibrillator (ICD) Devices</td>
<td>Semiconductor Research Corporation/UT Dallas</td>
</tr>
<tr>
<td>103636</td>
<td>Research, Restricted</td>
<td>N</td>
<td>07/24/2009 - 10/15/2010</td>
<td>RF/Analog IC and System-on-a-Chip (SoC) Design Exploiting Nonlinear Dynamics Physics</td>
<td>US Navy SPAWAR</td>
</tr>
<tr>
<td>104318</td>
<td>Research, Restricted</td>
<td>N</td>
<td>01/01/2010 - 12/31/2011</td>
<td>Research and Development of Headset-based Portable EVestG Technology in TI OMAP Platform</td>
<td>Texas Instruments Foundation</td>
</tr>
</tbody>
</table>

#### Facilities and Administrative Costs

**Investigator** | **Credit** | **ORS Log Date** | **Recovery Type** | **Rate** | **Amount** | **Award Amt Credited** |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Lie,Yu-Chun D</td>
<td>100.00%</td>
<td>08/16/2010</td>
<td>NR Mandatory</td>
<td>0.00%</td>
<td>$0.00</td>
<td>$60,000.00</td>
</tr>
<tr>
<td>Lie,Yu-Chun D</td>
<td>100.00%</td>
<td>07/28/2010</td>
<td>FR On Campus</td>
<td>46.50%</td>
<td>$22,532.00</td>
<td>$77,559.00</td>
</tr>
<tr>
<td>Lie,Yu-Chun D</td>
<td>100.00%</td>
<td>11/24/2010</td>
<td>FR On Campus</td>
<td>46.50%</td>
<td>-$22,532.00</td>
<td>-$77,559.00</td>
</tr>
<tr>
<td>Lie,Yu-Chun D</td>
<td>100.00%</td>
<td>02/19/2010</td>
<td>NR Mandatory</td>
<td>0.00%</td>
<td>$0.00</td>
<td>$150,000.00</td>
</tr>
</tbody>
</table>

**Credited Total Costs:**

<table>
<thead>
<tr>
<th></th>
<th>$0.00</th>
<th>$60,000.00</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$0.00</td>
<td>$77,559.00</td>
</tr>
<tr>
<td></td>
<td>$0.00</td>
<td>$150,000.00</td>
</tr>
</tbody>
</table>
## TEXAS TECH UNIVERSITY
### Summary of Awards
#### 01/01/2010 to 12/31/2010

### College of Engineering

#### Electrical and Computer Engr

<table>
<thead>
<tr>
<th>Proposal No:</th>
<th>Project Type: Research, Restricted</th>
<th>International Component</th>
<th>Project Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>104439</td>
<td></td>
<td>01/01/2010 - 09/30/2013</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Title: MRI-Development of Real Time Simulator for Smart Grid Systems Integrated with Distributed Renewable Energy Sources</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Agency: NII Science Foundation</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rao, Vittal S</td>
<td>30.00%</td>
<td>09/14/2010</td>
<td>NR Mandatory</td>
<td>0.00%</td>
<td>$0.00</td>
<td>$124,500.00</td>
</tr>
</tbody>
</table>

Credited Total Costs: $0.00 $124,500.00

<table>
<thead>
<tr>
<th>No. of awards for Electrical and Computer Engr</th>
<th>Credited Amounts, F&amp;A and awarded</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.30</td>
<td>F&amp;A Amount $0.00 Award Amount $124,500.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No. of awards for College of Engineering</th>
<th>Credited Amounts, F&amp;A and awarded</th>
</tr>
</thead>
<tbody>
<tr>
<td>.3</td>
<td>F&amp;A Amount $0.00 Award Amount $124,500.00</td>
</tr>
</tbody>
</table>

**OVERALL TOTAL NUMBER OF AWARDS:** 0.30

**OVERALL TOTAL AMOUNTS, F&A AND AWARDS:** $0.00 $124,500.00

---

### Key to Facilities and Administrative Costs Recovery Type

- Administrative Fee = Administrative fee assessed in lieu of F&A
- FR Off Campus = Full Recovery, Off Campus Rate
- FR On Campus = Full Recovery, On Campus Rate
- FR On-Off Combined = Full Recovery, On Campus/Off Campus Combination
- NR Voluntary = No Recovery, Voluntary Waiver
- NR Mandatory = No Recovery, Mandatory by sponsor policy
- Reduced Voluntary = Amount voluntarily reduced
- Reduced Mandatory = Amount reduced by sponsor policy
- NR Other No Budget = Non-monetary or other awards not budgeted
### TEXAS TECH UNIVERSITY

#### Summary of Awards

**01/01/2010** to **12/31/2010**

## College of Engineering

### Electrical and Computer Engr

<table>
<thead>
<tr>
<th>Proposal No.</th>
<th>Project Type</th>
<th>International Component?</th>
<th>Project Period</th>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>104128</td>
<td>Research, Restricted</td>
<td>N</td>
<td>05/01/2010 - 12/31/2010</td>
<td>Dallas, Timothy J</td>
<td>100.00%</td>
<td>10/06/2010</td>
<td>FR On Campus</td>
<td>46.50%</td>
<td>$11,137.00</td>
<td>$35,087.00</td>
</tr>
</tbody>
</table>

**Facilities and Administrative Costs**

<table>
<thead>
<tr>
<th></th>
<th>F&amp;A Amount</th>
<th>Award Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credited Total Costs:</td>
<td>$11,137.00</td>
<td>$35,087.00</td>
</tr>
</tbody>
</table>

**No. of awards for Electrical and Computer Engr Credited Amounts, F&A and awarded**

<table>
<thead>
<tr>
<th></th>
<th>F&amp;A Amount</th>
<th>Award Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.00</td>
<td>$11,137.00</td>
<td>$35,087.00</td>
</tr>
</tbody>
</table>

**No. of awards for College of Engineering Credited Amounts, F&A and awarded**

<table>
<thead>
<tr>
<th></th>
<th>F&amp;A Amount</th>
<th>Award Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$11,137.00</td>
<td>$35,087.00</td>
</tr>
</tbody>
</table>

**OVERALL TOTAL NUMBER OF AWARDS:**

1.00

**OVERALL TOTAL AMOUNTS,F&A AND AWARDS:**

$11,137.00 $35,087.00

---

**Key to Facilities and Administrative Costs Recovery Type**

- **Administrative Fee** = Administrative fee assessed in lieu of F&A
- **FR Off Campus** = Full Recovery, Off Campus Rate
- **FR On Campus** = Full Recovery, On Campus Rate
- **FR On-Off Combined** = Full Recovery, On Campus/Off Campus Combination
- **NR Voluntary** = No Recovery, Voluntary Waiver
- **NR Mandatory** = No Recovery, Mandatory by sponsor policy
- **Reduced Voluntary** = Amount voluntarily reduced
- **Reduced Mandatory** = Amount reduced by sponsor policy
- **NR Other No Budget** = Non-monetary or other awards not budgeted
# TEXAS TECH UNIVERSITY
## Summary of Awards
### 01/01/2010 to 12/31/2010

### College of Engineering
#### Electrical and Computer Engr

<table>
<thead>
<tr>
<th>Proposal No:</th>
<th>Project Type:</th>
<th>International Component?</th>
<th>Project Period</th>
<th>Facilities and Administrative Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>104226</td>
<td>Research, Restricted</td>
<td>N</td>
<td>07/01/2010 - 08/31/2012</td>
<td>Rate</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>NR Mandatory</td>
</tr>
</tbody>
</table>

**Investigator:** Karp, Tanja N  
**Credit:** 100.00%  
**ORS Log Date:** 06/28/2010

**Credited Total Costs:**  
- $0.00  
- $116,675.00

**No. of awards for Electrical and Computer Engr:**  
**Credited Amounts, F&A and awarded:** 1.00  
**F&A Amount:** $0.00  
**Award Amount:** $116,675.00

**No. of awards for College of Engineering:**  
**Credited Amounts, F&A and awarded:** 1  
**F&A Amount:** $0.00  
**Award Amount:** $116,675.00

**OVERALL TOTAL NUMBER OF AWARDS:** 1.00

**OVERALL TOTAL AMOUNTS, F&A AND AWARDS:** $0.00  
- $116,675.00

---

**Key to Facilities and Administrative Costs Recovery Type**
- Administrative Fee = Administrative fee assessed in lieu of F&A
- FR Off Campus = Full Recovery, Off Campus Rate
- FR On Campus = Full Recovery, On Campus Rate
- FR On-Off Combined = Full Recovery, On Campus/Off Campus Combination
- NR Voluntary = No Recovery, Voluntary Waiver
- NR Mandatory = No Recovery, Mandatory by sponsor policy
- Reduced Voluntary = Amount voluntarily reduced
- Reduced Mandatory = Amount reduced by sponsor policy
- NR Other No Budget = Non-monetary or other awards not budgeted
### TEXAS TECH UNIVERSITY
#### Summary of Awards

**01/01/2010 to 12/31/2010**

**College of Engineering**

### Electrical and Computer Engr

<table>
<thead>
<tr>
<th>Proposal No:</th>
<th>Project Type:</th>
<th>International Component?</th>
<th>Project Period</th>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>104658</td>
<td>Research, Restricted</td>
<td>N</td>
<td>09/01/2010 - 08/31/2011</td>
<td>Mitra, Sunanda</td>
<td>50.00%</td>
<td>08/15/2010</td>
<td>FR On Campus</td>
<td>47.00%</td>
<td>$6,091.00</td>
<td>$25,000.00</td>
</tr>
</tbody>
</table>

**Facilities and Administrative Costs**

<p>| | | | | | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Credited Total Costs:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$6,091.00</td>
<td></td>
<td></td>
<td>$25,000.00</td>
<td></td>
</tr>
</tbody>
</table>

**No. of awards for Electrical and Computer Engr Credited Amounts, F&A and awarded**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th>F&amp;A Amount</th>
<th>Award Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.50</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$6,091.00</td>
<td>$25,000.00</td>
</tr>
</tbody>
</table>

**No. of awards for College of Engineering Credited Amounts, F&A and awarded**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th>F&amp;A Amount</th>
<th>Award Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$6,091.00</td>
<td>$25,000.00</td>
</tr>
</tbody>
</table>

**OVERALL TOTAL NUMBER OF AWARDS:**

<p>| | | | | | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0.50</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**OVERALL TOTAL AMOUNTS, F&A AND AWARDS:**

<p>| | | | | | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>$6,091.00</td>
<td>$25,000.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Key to Facilities and Administrative Costs Recovery Type**

- Administrative Fee = Administrative fee assessed in lieu of F&A
- FR Off Campus = Full Recovery, Off Campus Rate
- FR On Campus = Full Recovery, On Campus Rate
- FR On-Off Combined = Full Recovery, On Campus/Off Campus Combination
- NR Voluntary = No Recovery, Voluntary Waiver
- NR Mandatory = No Recovery, Mandatory by sponsor policy
- Reduced Voluntary = Amount voluntarily reduced
- Reduced Mandatory = Amount reduced by sponsor policy
- NR Other No Budget = Non-monetary or other awards not budgeted
## TEXAS TECH UNIVERSITY
### Summary of Awards

**01/01/2010** to **12/31/2010**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FR Off Campus</td>
<td>Full Recovery, Off Campus Rate</td>
</tr>
<tr>
<td>FR On Campus</td>
<td>Full Recovery, On Campus Rate</td>
</tr>
<tr>
<td>FR On-Off Combined</td>
<td>Full Recovery, On Campus/Off Campus Combination</td>
</tr>
<tr>
<td>NR Voluntary</td>
<td>No Recovery, Voluntary Waiver</td>
</tr>
<tr>
<td>NR Mandatory</td>
<td>No Recovery, Mandatory by sponsor policy</td>
</tr>
<tr>
<td>Reduced Voluntary</td>
<td>Amount voluntarily reduced</td>
</tr>
<tr>
<td>Reduced Mandatory</td>
<td>Amount reduced by sponsor policy</td>
</tr>
<tr>
<td>NR Other No Budget</td>
<td>Non-monetary or other awards not budgeted</td>
</tr>
</tbody>
</table>
## College of Engineering

| No of awards for College of Engineering | Credited Amounts, F&A and awarded | 3.64 | F&A Amount   | $43,433.52 | Award Amount | $221,119.96 |

## Other Units and Activities

### Wind Sci & Engr Research Ctr (Ind)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Investigator</td>
<td>Credit</td>
<td>ORS Log Date</td>
<td>Recovery Type</td>
<td>Rate</td>
<td>Amount</td>
</tr>
<tr>
<td>Bayne, Stephen B</td>
<td>100.00%</td>
<td>07/09/2010</td>
<td>NR Mandatory</td>
<td>0.00%</td>
<td>$0.00</td>
</tr>
<tr>
<td>Bayne, Stephen B</td>
<td>100.00%</td>
<td>07/19/2010</td>
<td>NR Mandatory</td>
<td>0.00%</td>
<td>$0.00</td>
</tr>
<tr>
<td>Bayne, Stephen B</td>
<td>100.00%</td>
<td>10/16/2010</td>
<td>NR Mandatory</td>
<td>0.00%</td>
<td>$0.00</td>
</tr>
</tbody>
</table>

## Credited Total Costs:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Investigator</td>
<td>Credit</td>
<td>ORS Log Date</td>
<td>Recovery Type</td>
<td>Rate</td>
<td>Amount</td>
</tr>
<tr>
<td>Bayne, Stephen B</td>
<td>6.00%</td>
<td>09/01/2010</td>
<td>FR On Campus</td>
<td>46.50%</td>
<td>$33,848.76</td>
</tr>
</tbody>
</table>

## Credited Total Costs: $33,848.76 $120,000.00

### Wind Sci & Engr Research Ctr (Ind)

| No. of awards for Wind Sci & Engr Research Ctr (Ind) | Credited Amounts, F&A and awarded | 3.06 | F&A Amount   | $33,848.76 | Award Amount | $4,038,863.00 |

### Other Units and Activities

| No of awards for Other Units and Activities | Credited Amounts, F&A and awarded | 3.06 | F&A Amount   | $33,848.76 | Award Amount | $4,038,863.00 |

## OVERALL TOTAL NUMBER OF AWARDS:

| 6.70 |

## OVERALL TOTAL AMOUNTS, F&A AND AWARDS:

| $77,282.28 | $4,259,982.96 |

**Key to Facilities and Administrative Costs Recovery Type**

Administrative Fee = Administrative fee assessed in lieu of F&A
### College of Engineering

**Ctr for Pulsed Pwr, Pwr Electronics**

<table>
<thead>
<tr>
<th>Proposal No:</th>
<th>Project Type:</th>
<th>International Component?</th>
<th>Project</th>
<th>Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>104486</td>
<td>Other</td>
<td>N</td>
<td>09/01/2010</td>
<td>02/28/2011</td>
</tr>
</tbody>
</table>

**Title:** Support for 4th US-Japan Pulsed Power and Symposium on Pulsed Power and Plasma Applications

**Agency:** Air Force Office of Scientific Research

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bayne, Stephen B</td>
<td>100.00%</td>
<td>10/29/2010</td>
<td>NR Mandatory</td>
<td>0.00%</td>
<td>$0.00</td>
<td>$6,000.00</td>
</tr>
</tbody>
</table>

**Facilities and Administrative Costs**

<table>
<thead>
<tr>
<th>Facilities and Administrative Costs</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>F&amp;A Amount</td>
<td>$32,934.50</td>
</tr>
<tr>
<td>Award Amount</td>
<td>$141,560.00</td>
</tr>
</tbody>
</table>

**Credited Total Costs:**

<table>
<thead>
<tr>
<th>Credited Total Costs:</th>
<th></th>
</tr>
</thead>
</table>

**No. of awards for Ctr for Pulsed Pwr, Pwr Electronics**

| Credited Amounts, F&A and awarded | 3.50 |

### Electrical and Computer Engr

**Proposal No: 101368**

**Project Type:** Research, Restricted

<table>
<thead>
<tr>
<th>Proposal No:</th>
<th>Project Type:</th>
<th>International Component?</th>
<th>Project</th>
<th>Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>101368</td>
<td>Research, Restricted</td>
<td>N</td>
<td>09/01/2009</td>
<td>08/31/2010</td>
</tr>
</tbody>
</table>

**Title:** FY 10 Great Plains Wind Power Test Facility

**Agency:** U.S. Department of Energy

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bayne, Stephen B</td>
<td>2.00%</td>
<td>01/15/2010</td>
<td>FR On Campus</td>
<td>46.50%</td>
<td>$750.26</td>
<td>$4,000.00</td>
</tr>
<tr>
<td>Bayne, Stephen B</td>
<td>2.00%</td>
<td>01/29/2010</td>
<td>FR On Campus</td>
<td>46.50%</td>
<td>$9,748.76</td>
<td>$34,059.96</td>
</tr>
</tbody>
</table>

**Facilities and Administrative Costs**

<table>
<thead>
<tr>
<th>Facilities and Administrative Costs</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>F&amp;A Amount</td>
<td>$38,059.96</td>
</tr>
</tbody>
</table>

**Credited Total Costs:**

<table>
<thead>
<tr>
<th>Credited Total Costs:</th>
<th></th>
</tr>
</thead>
</table>

**Proposal No: 104439**

**Project Type:** Research, Restricted

<table>
<thead>
<tr>
<th>Proposal No:</th>
<th>Project Type:</th>
<th>International Component?</th>
<th>Project</th>
<th>Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>104439</td>
<td>Research, Restricted</td>
<td>N</td>
<td>10/01/2010</td>
<td>09/30/2013</td>
</tr>
</tbody>
</table>

**Title:** MRI-Development of Real Time Simulator for Smart Grid Systems Integrated with Distributed Renewable Energy Sources

**Agency:** Nil Science Foundation

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bayne, Stephen B</td>
<td>10.00%</td>
<td>09/14/2010</td>
<td>NR Mandatory</td>
<td>0.00%</td>
<td>$0.00</td>
<td>$41,500.00</td>
</tr>
</tbody>
</table>

**Facilities and Administrative Costs**

<table>
<thead>
<tr>
<th>Facilities and Administrative Costs</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>F&amp;A Amount</td>
<td>$41,500.00</td>
</tr>
</tbody>
</table>

**Credited Total Costs:**

<table>
<thead>
<tr>
<th>Credited Total Costs:</th>
<th></th>
</tr>
</thead>
</table>

**No. of awards for Electrical and Computer Engr**

| Credited Amounts, F&A and awarded | 0.14 |

<table>
<thead>
<tr>
<th>F&amp;A Amount</th>
<th>Award Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>$10,499.02</td>
<td>$79,559.96</td>
</tr>
</tbody>
</table>
## TEXAS TECH UNIVERSITY
### Summary of Awards

#### 01/01/2010 to 12/31/2010

### College of Engineering

#### Ctr for Pulsed Pwr, Pwr Electronics

<table>
<thead>
<tr>
<th>Proposal No: 104118</th>
<th>Project Type: Research, Restricted</th>
<th>International Component?</th>
<th>Project Period</th>
<th>Agency: AFOSR/HEM Technologies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title: Advanced Nonlinear Transmission Lines as High Power Microwave Sources</td>
<td></td>
<td></td>
<td>03/10/2010 - 08/31/2011</td>
<td></td>
</tr>
<tr>
<td>Investigator</td>
<td>Credit</td>
<td>ORS Log Date</td>
<td>Recovery Type</td>
<td>Rate</td>
</tr>
<tr>
<td>Bayne, Stephen B</td>
<td>100.00%</td>
<td>03/12/2010</td>
<td>FR On Campus</td>
<td>46.50%</td>
</tr>
</tbody>
</table>

### Facilities and Administrative Costs

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Title: Semiconductor Evaluation for EM Gun Applications</td>
<td></td>
<td></td>
<td>03/10/2010 - 03/09/2013</td>
<td></td>
</tr>
<tr>
<td>Investigator</td>
<td>Credit</td>
<td>ORS Log Date</td>
<td>Recovery Type</td>
<td>Rate</td>
</tr>
<tr>
<td>Bayne, Stephen B</td>
<td>50.00%</td>
<td>03/10/2010</td>
<td>FR On Campus</td>
<td>46.50%</td>
</tr>
</tbody>
</table>

### Credited Total Costs:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Title: Silicon-carbide Power Devices Characterization</td>
<td></td>
<td></td>
<td>11/01/2010 - 10/31/2011</td>
<td></td>
</tr>
<tr>
<td>Investigator</td>
<td>Credit</td>
<td>ORS Log Date</td>
<td>Recovery Type</td>
<td>Rate</td>
</tr>
<tr>
<td>Bayne, Stephen B</td>
<td>100.00%</td>
<td>12/13/2010</td>
<td>FR On Campus</td>
<td>47.00%</td>
</tr>
</tbody>
</table>

### Credited Total Costs:

<table>
<thead>
<tr>
<th>Proposal No: 104118</th>
<th>Project Type: Research, Restricted</th>
<th>International Component?</th>
<th>Project Period</th>
<th>Agency: AFOSR/HEM Technologies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title: Advanced Nonlinear Transmission Lines as High Power Microwave Sources</td>
<td></td>
<td></td>
<td>03/10/2010 - 08/31/2011</td>
<td></td>
</tr>
<tr>
<td>Investigator</td>
<td>Credit</td>
<td>ORS Log Date</td>
<td>Recovery Type</td>
<td>Rate</td>
</tr>
<tr>
<td>Bayne, Stephen B</td>
<td>100.00%</td>
<td>03/12/2010</td>
<td>FR On Campus</td>
<td>46.50%</td>
</tr>
</tbody>
</table>

### Facilities and Administrative Costs

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Title: Semiconductor Evaluation for EM Gun Applications</td>
<td></td>
<td></td>
<td>03/10/2010 - 03/09/2013</td>
<td></td>
</tr>
<tr>
<td>Investigator</td>
<td>Credit</td>
<td>ORS Log Date</td>
<td>Recovery Type</td>
<td>Rate</td>
</tr>
<tr>
<td>Bayne, Stephen B</td>
<td>50.00%</td>
<td>03/10/2010</td>
<td>FR On Campus</td>
<td>46.50%</td>
</tr>
</tbody>
</table>

### Credited Total Costs:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Title: Silicon-carbide Power Devices Characterization</td>
<td></td>
<td></td>
<td>11/01/2010 - 10/31/2011</td>
<td></td>
</tr>
<tr>
<td>Investigator</td>
<td>Credit</td>
<td>ORS Log Date</td>
<td>Recovery Type</td>
<td>Rate</td>
</tr>
<tr>
<td>Bayne, Stephen B</td>
<td>100.00%</td>
<td>12/13/2010</td>
<td>FR On Campus</td>
<td>47.00%</td>
</tr>
</tbody>
</table>
## TEXAS TECH UNIVERSITY
### Summary of Awards

01/01/2010 to 12/31/2010

### College of Engineering

#### Chemical Engr

<table>
<thead>
<tr>
<th>Proposal No:</th>
<th>Project Type:</th>
<th>Research, Restricted</th>
<th>International Component:</th>
<th>N</th>
<th>Project Period:</th>
<th>05/01/2010 - 04/30/2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title:</td>
<td>Tg Changes, Surface Effects, and Dynamics in Nanoconfined Polymers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agency:</td>
<td>NII Science Foundation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simon, Sindee L</td>
<td>100.00%</td>
<td>04/12/2010</td>
<td>FR On Campus</td>
<td>46.50%</td>
<td>$33,217.00</td>
<td>$120,000.00</td>
</tr>
</tbody>
</table>

**Credited Total Costs:**

|                  | $33,217.00 | $120,000.00 |

<table>
<thead>
<tr>
<th>No. of awards for</th>
<th>Chemical Engr</th>
<th>1.00</th>
<th>F&amp;A Amount</th>
<th>$33,217.00</th>
<th>Award Amount</th>
<th>$120,000.00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credited Amounts, F&amp;A and awarded</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No. of awards for</th>
<th>College of Engineering</th>
<th>1</th>
<th>F&amp;A Amount</th>
<th>$33,217.00</th>
<th>Award Amount</th>
<th>$120,000.00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credited Amounts, F&amp;A and awarded</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**OVERALL TOTAL NUMBER OF AWARDS:** 1.00

**OVERALL TOTAL AMOUNTS, F&A AND AWARDS:** $33,217.00 $120,000.00

---

**Key to Facilities and Administrative Costs Recovery Type**

- Administrative Fee = Administrative fee assessed in lieu of F&A
- FR Off Campus = Full Recovery, Off Campus Rate
- FR On Campus = Full Recovery, On Campus Rate
- FR Off-On Combined = Full Recovery, On Campus/Off Campus Combination
- NR Voluntary = No Recovery, Voluntary Waiver
- NR Mandatory = No Recovery, Mandatory by sponsor policy
- Reduced Voluntary = Amount voluntarily reduced
- Reduced Mandatory = Amount reduced by sponsor policy
- NR Other No Budget = Non-monetary or other awards not budgeted
**TEXAS TECH UNIVERSITY**  
**Summary of Awards**  
01/01/2010 to 12/31/2010

| OVERALL TOTAL AMOUNTS, F&A AND AWARDS: | $80,170.32 | $428,030.00 |

---

**Key to Facilities and Administrative Costs Recovery Type**

- **Administrative Fee** = Administrative fee assessed in lieu of F&A
- **FR Off Campus** = Full Recovery, Off Campus Rate
- **FR On Campus** = Full Recovery, On Campus Rate
- **FR On-Off Combined** = Full Recovery, On Campus/Off Campus Combination
- **NR Voluntary** = No Recovery, Voluntary Waiver
- **NR Mandatory** = No Recovery, Mandatory by sponsor policy
- **Reduced Voluntary** = Amount voluntarily reduced
- **Reduced Mandatory** = Amount reduced by sponsor policy
- **NR Other No Budget** = Non-monetary or other awards not budgeted
## TEXAS TECH UNIVERSITY

### Summary of Awards

**01/01/2010** to **12/31/2010**

### College of Engineering

#### Nano Tech Center

<table>
<thead>
<tr>
<th>Proposal No.</th>
<th>Project Type: Research, Restricted</th>
<th>International Component?</th>
<th>Project Period</th>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>104310</td>
<td></td>
<td>N</td>
<td>09/15/2010 - 08/31/2013</td>
<td>Nikishin, Sergey A</td>
<td>50.00%</td>
<td>09/16/2010</td>
<td>FR On Campus</td>
<td>47.00%</td>
<td>$29,210.00</td>
<td>$105,000.00</td>
</tr>
</tbody>
</table>

**Facilities and Administrative Costs:**

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nikishin, Sergey A</td>
<td>50.00%</td>
<td>09/16/2010</td>
<td>FR On Campus</td>
<td>47.00%</td>
<td>$29,210.00</td>
<td>$105,000.00</td>
</tr>
</tbody>
</table>

**Credited Total Costs:**

<table>
<thead>
<tr>
<th>Proposal No.</th>
<th>Project Type: Research, Restricted</th>
<th>International Component?</th>
<th>Project Period</th>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>104217</td>
<td></td>
<td>N</td>
<td>07/01/2010 - 08/31/2012</td>
<td>Nikishin, Sergey A</td>
<td>50.00%</td>
<td>06/28/2010</td>
<td>NR Mandatory</td>
<td>0.00%</td>
<td>$0.00</td>
<td>$98,230.00</td>
</tr>
</tbody>
</table>

**Facilities and Administrative Costs:**

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nikishin, Sergey A</td>
<td>50.00%</td>
<td>06/28/2010</td>
<td>NR Mandatory</td>
<td>0.00%</td>
<td>$0.00</td>
<td>$98,230.00</td>
</tr>
</tbody>
</table>

**Credited Total Costs:**

<table>
<thead>
<tr>
<th>Proposal No.</th>
<th>Project Type: Research, Restricted</th>
<th>International Component?</th>
<th>Project Period</th>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>102148</td>
<td></td>
<td>N</td>
<td>08/31/2010 - 08/31/2011</td>
<td>Nikishin, Sergey A</td>
<td>16.00%</td>
<td>08/05/2010</td>
<td>FR On Campus</td>
<td>46.50%</td>
<td>$50,960.32</td>
<td>$224,800.00</td>
</tr>
</tbody>
</table>

**Facilities and Administrative Costs:**

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nikishin, Sergey A</td>
<td>16.00%</td>
<td>08/05/2010</td>
<td>FR On Campus</td>
<td>46.50%</td>
<td>$50,960.32</td>
<td>$224,800.00</td>
</tr>
</tbody>
</table>

**Credited Total Costs:**

---

**No. of awards for Nano Tech Center**

- Credited Amounts, F&A and awarded: 1.16
- F&A Amount: $80,170.32
- Award Amount: $428,030.00

**No. of awards for College of Engineering**

- Credited Amounts, F&A and awarded: 1.16
- F&A Amount: $80,170.32
- Award Amount: $428,030.00

**OVERALL TOTAL NUMBER OF AWARDS:**

1.16
## TEXAS TECH UNIVERSITY

### Summary of Awards

**01/01/2010** to **12/31/2010**

### College of Engineering

#### Electrical and Computer Engr

<table>
<thead>
<tr>
<th>Proposal No:</th>
<th>Project Type:</th>
<th>International Component?</th>
</tr>
</thead>
<tbody>
<tr>
<td>104381</td>
<td>Research, Restricted</td>
<td>N</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Title:</th>
<th>Agency:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering Recruitment Program</td>
<td>Texas Higher Education Coordinating Board</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gale, Richard O</td>
<td>30.00%</td>
<td>05/19/2010</td>
<td>NR Mandatory</td>
<td>0.00%</td>
<td>$0.00</td>
<td>$5,400.00</td>
</tr>
</tbody>
</table>

**Facilities and Administrative Costs**

<table>
<thead>
<tr>
<th>Facility</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>F&amp;A</td>
<td>0.30</td>
<td></td>
<td></td>
<td></td>
<td>$0.00</td>
<td>$5,400.00</td>
</tr>
</tbody>
</table>

**No. of awards for Electrical and Computer Engr Credited Amounts, F&A and awarded**

0.30

<table>
<thead>
<tr>
<th>Facility</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>F&amp;A</td>
<td>0.30</td>
<td></td>
<td></td>
<td></td>
<td>$0.00</td>
<td>$5,400.00</td>
</tr>
</tbody>
</table>

**No. of awards for College of Engineering Credited Amounts, F&A and awarded**

0.30

<table>
<thead>
<tr>
<th>Facility</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>F&amp;A</td>
<td>0.30</td>
<td></td>
<td></td>
<td></td>
<td>$0.00</td>
<td>$5,400.00</td>
</tr>
</tbody>
</table>

**OVERALL TOTAL NUMBER OF AWARDS:**

0.30

**OVERALL TOTAL AMOUNTS,F&A AND AWARDS:**

$0.00 | $5,400.00

---

**Key to Facilities and Administrative Costs Recovery Type**

- Administrative Fee = Administrative fee assessed in lieu of F&A
- FR Off Campus = Full Recovery, Off Campus Rate
- FR On Campus = Full Recovery, On Campus Rate
- FR On-Off Combined = Full Recovery, On Campus/Off Campus Combination
- NR Voluntary = No Recovery, Voluntary Waiver
- NR Mandatory = No Recovery, Mandatory by sponsor policy
- Reduced Voluntary = Amount voluntarily reduced
- Reduced Mandatory = Amount reduced by sponsor policy
- NR Other No Budget = Non-monetary or other awards not budgeted
## TEXAS TECH UNIVERSITY

### Summary of Awards

**01/01/2010 to 12/31/2010**

### College of Engineering

#### Electrical and Computer Engr

<table>
<thead>
<tr>
<th>Proposal No:</th>
<th>103763</th>
<th>Project Type:</th>
<th>Research, Restricted</th>
<th>International Component?:</th>
<th>N</th>
<th>Project Period</th>
<th>02/01/2010 - 01/31/2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title:</td>
<td>REU SUPPLEMENT: Career: Robustness in Genetic Regulatory Network Modeling and Control</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agency:</td>
<td>NII Science Foundation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pal,Ranadip</td>
<td>100.00%</td>
<td>05/06/2010</td>
<td>Reduced Mandatory</td>
<td>25.00%</td>
<td>$2,828.00</td>
<td>$14,140.00</td>
</tr>
</tbody>
</table>

**Credited Total Costs:**

| | $2,828.00 | $14,140.00 |

| No. of awards for | Electrical and Computer Engr | 1.00 | F&A Amount | $2,828.00 | Award Amount | $14,140.00 |
| No of awards for | College of Engineering | 1 | F&A Amount | $2,828.00 | Award Amount | $14,140.00 |

**OVERALL TOTAL NUMBER OF AWARDS:**

1.00

**OVERALL TOTAL AMOUNTS,F&A AND AWARDS:**

$2,828.00 | $14,140.00

### Key to Facilities and Administrative Costs Recovery Type

- Administrative Fee = Administrative fee assessed in lieu of F&A
- FR Off Campus = Full Recovery, Off Campus Rate
- FR On Campus = Full Recovery, On Campus Rate
- FR On-Off Combined = Full Recovery, On Campus/Off Campus Combination
- NR Voluntary = No Recovery, Voluntary Waiver
- NR Mandatory = No Recovery, Mandatory by sponsor policy
- Reduced Voluntary = Amount voluntarily reduced
- Reduced Mandatory = Amount reduced by sponsor policy
- NR Other No Budget = Non-monetary or other awards not budgeted
TEXAS TECH UNIVERSITY  
Summary of Awards  
01/01/2010 to 12/31/2010  

OVERALL TOTAL NUMBER OF AWARDS:

OVERALL TOTAL AMOUNTS, F&A AND AWARDS:

<table>
<thead>
<tr>
<th>Key to Facilities and Administrative Costs Recovery Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrative Fee = Administrative fee assessed in lieu of F&amp;A</td>
</tr>
<tr>
<td>FR Off Campus = Full Recovery, Off Campus Rate</td>
</tr>
<tr>
<td>FR On Campus = Full Recovery, On Campus Rate</td>
</tr>
<tr>
<td>FR On-Off Combined = Full Recovery, On Campus/Off Campus Combination</td>
</tr>
<tr>
<td>NR Voluntary = No Recovery, Voluntary Waiver</td>
</tr>
<tr>
<td>NR Mandatory = No Recovery, Mandatory by sponsor policy</td>
</tr>
<tr>
<td>Reduced Voluntary = Amount voluntarily reduced</td>
</tr>
<tr>
<td>Reduced Mandatory = Amount reduced by sponsor policy</td>
</tr>
<tr>
<td>NR Other No Budget = Non-monetary or other awards not budgeted</td>
</tr>
</tbody>
</table>
### TEXAS TECH UNIVERSITY
### Summary of Awards

**01/01/2010 to 12/31/2010**

| Overall Total Amounts, F&A and Awards: | $96,534.72 | $362,468.12 |

**Key to Facilities and Administrative Costs Recovery Type**

- Administrative Fee = Administrative fee assessed in lieu of F&A
- FR Off Campus = Full Recovery, Off Campus Rate
- FR On Campus = Full Recovery, On Campus Rate
- FR On-Off Combined = Full Recovery, On Campus/Off Campus Combination
- NR Voluntary = No Recovery, Voluntary Waiver
- NR Mandatory = No Recovery, Mandatory by sponsor policy
- Reduced Voluntary = Amount voluntarily reduced
- Reduced Mandatory = Amount reduced by sponsor policy
- NR Other No Budget = Non-monetary or other awards not budgeted
Electrical & Computer Engineering

## College of Engineering

### Mechanical Engr

<table>
<thead>
<tr>
<th>Proposal No:</th>
<th>Project Type:</th>
<th>International Component</th>
<th>Project Period</th>
<th>Investigator</th>
</tr>
</thead>
<tbody>
<tr>
<td>102380</td>
<td>Research, Restricted</td>
<td>N</td>
<td>05/01/2008 - 04/30/2011</td>
<td>Pantoya, Michelle L</td>
</tr>
<tr>
<td>103618</td>
<td>Research, Restricted</td>
<td>N</td>
<td>12/08/2009 - 11/30/2010</td>
<td>Pantoya, Michelle L</td>
</tr>
<tr>
<td>104525</td>
<td>Research, Restricted</td>
<td>N</td>
<td>08/23/2010 - 04/15/2011</td>
<td>Pantoya, Michelle L</td>
</tr>
</tbody>
</table>

#### Facilities and Administrative Costs

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pantoya, Michelle L</td>
<td>50.00%</td>
<td>03/04/2010</td>
<td>FR On Campus</td>
<td>46.50%</td>
<td>$13,832.00</td>
<td>$50,000.00</td>
</tr>
<tr>
<td>Pantoya, Michelle L</td>
<td>16.00%</td>
<td>02/12/2010</td>
<td>FR On Campus</td>
<td>46.50%</td>
<td>$3,514.72</td>
<td>$11,073.12</td>
</tr>
<tr>
<td>Pantoya, Michelle L</td>
<td>100.00%</td>
<td>09/03/2010</td>
<td>FR On Campus</td>
<td>47.00%</td>
<td>$23,091.00</td>
<td>$79,896.00</td>
</tr>
</tbody>
</table>

#### Credited Total Costs:

<table>
<thead>
<tr>
<th>Proposal No:</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>102380</td>
<td>$13,832.00</td>
<td>$50,000.00</td>
</tr>
<tr>
<td>103618</td>
<td>$3,514.72</td>
<td>$11,073.12</td>
</tr>
<tr>
<td>104525</td>
<td>$23,091.00</td>
<td>$79,896.00</td>
</tr>
</tbody>
</table>

### OVERALL TOTAL NUMBER OF AWARDS:

7.66
### Texas Tech University

**Summary of Awards**

01/01/2010 to 12/31/2010

#### College of Engineering

### Mechanical Engr

<table>
<thead>
<tr>
<th>Proposal No: 2061</th>
<th>Project Type: Research, Restricted</th>
<th>International Component: No</th>
<th>Project Period: 06/01/2004 - 12/31/2010</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Title:</strong> Fundamental Thermochemistry Analyses of Gas Phase Chemistry from Nanoenergetic Material Formulations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Agency:</strong> U.S. Army Research Office</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Investigator:</strong> Pantoya, Michelle L</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Credit:</strong> 100.00%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ORS Log Date:</strong> 03/23/2010</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Recovery Type:</strong> NR Mandatory</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Rate:</strong> 0.00%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Amount:</strong> $0.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Award Amt Credited:</strong> $6,000.00</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Credited Total Costs: $0.00

---

<table>
<thead>
<tr>
<th>Proposal No: 102380</th>
<th>Project Type: Research, Restricted</th>
<th>International Component: No</th>
<th>Project Period: 05/01/2008 - 10/12/2010</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Title:</strong> Graduate Research Supplement: Melt-dispersion Mechanism for Energetic Reactions of Aluminum Nanoparticles</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Agency:</strong> NIH Science Foundation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Investigator:</strong> Pantoya, Michelle L</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Credit:</strong> 100.00%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ORS Log Date:</strong> 08/16/2010</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Recovery Type:</strong> Reduced Mandatory</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Rate:</strong> 25.00%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Amount:</strong> $5,278.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Award Amt Credited:</strong> $41,000.00</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Credited Total Costs: $5,278.00

---

<table>
<thead>
<tr>
<th>Proposal No: 102352</th>
<th>Project Type: Research, Restricted</th>
<th>International Component: No</th>
<th>Project Period: 02/08/2008 - 02/07/2011</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Title:</strong> Impact Driven Reactions in Select Thermites and Reactive Materials</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Agency:</strong> DOD/DTRA/University of Texas</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Investigator:</strong> Pantoya, Michelle L</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Credit:</strong> 100.00%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ORS Log Date:</strong> 03/31/2010</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Recovery Type:</strong> FR On Campus</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Rate:</strong> 46.50%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Amount:</strong> $22,768.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Award Amt Credited:</strong> $78,177.00</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Credited Total Costs: $22,768.00

---
## TEXAS TECH UNIVERSITY
Summary of Awards

01/01/2010 to 12/31/2010

### College of Engineering

**Mechanical Engr**

<table>
<thead>
<tr>
<th>Proposal No:</th>
<th>2061</th>
<th>Project Type:</th>
<th>Research, Restricted</th>
<th>International Component: N</th>
<th>Project Period:</th>
<th>Amount:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title:</td>
<td>Analyses of Gas Phase Chemistry from Nanoenergetic Material Formulations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agency:</td>
<td>U.S. Army Research Office</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investigator</td>
<td>Pantoya, Michelle L</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Credit</td>
<td>100.00%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ORS Log Date</td>
<td>03/03/2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recovery Type</td>
<td>FR On Campus</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rate</td>
<td>46.00%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Award Amt Credited</td>
<td>$37,321.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Credited Total Costs:**

| Amount:        | $11,759.00 |
| Award Amt Credited | $37,321.00 |

<table>
<thead>
<tr>
<th>Proposal No:</th>
<th>104332</th>
<th>Project Type:</th>
<th>Research, Restricted</th>
<th>International Component: N</th>
<th>Project Period:</th>
<th>Amount:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title:</td>
<td>Biocidal Energetic Materials</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agency:</td>
<td>Defense Threat Reduction Agency/WTAMU</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investigator</td>
<td>Pantoya, Michelle L</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Credit</td>
<td>100.00%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ORS Log Date</td>
<td>09/17/2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recovery Type</td>
<td>FR On Campus</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rate</td>
<td>46.50%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Award Amt Credited</td>
<td>$50,001.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Credited Total Costs:**

| Amount:        | $13,435.00 |
| Award Amt Credited | $50,001.00 |

<table>
<thead>
<tr>
<th>Proposal No:</th>
<th>101943</th>
<th>Project Type:</th>
<th>Research, Restricted</th>
<th>International Component: N</th>
<th>Project Period:</th>
<th>Amount:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title:</td>
<td>Examining Nanocomposite Thermite Combustion in Aqueous Environments</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agency:</td>
<td>Battelle Energy Alliance, LLC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investigator</td>
<td>Pantoya, Michelle L</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Credit</td>
<td>100.00%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ORS Log Date</td>
<td>04/07/2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recovery Type</td>
<td>FR On Campus</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rate</td>
<td>46.50%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Award Amt Credited</td>
<td>$9,000.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Credited Total Costs:**

| Amount:        | $2,857.00 |
| Award Amt Credited | $9,000.00 |
TEXAS TECH UNIVERSITY
Summary of Awards
01/01/2010 to 12/31/2010

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FR On Campus</td>
<td>Full Recovery, On Campus Rate</td>
</tr>
<tr>
<td>FR On-Off Combined</td>
<td>Full Recovery, On Campus/Off Campus Combination</td>
</tr>
<tr>
<td>NR Voluntary</td>
<td>No Recovery, Voluntary Waiver</td>
</tr>
<tr>
<td>NR Mandatory</td>
<td>No Recovery, Mandatory by sponsor policy</td>
</tr>
<tr>
<td>Reduced Voluntary</td>
<td>Amount voluntarily reduced</td>
</tr>
<tr>
<td>Reduced Mandatory</td>
<td>Amount reduced by sponsor policy</td>
</tr>
<tr>
<td>NR Other No Budget</td>
<td>Non-monetary or other awards not budgeted</td>
</tr>
</tbody>
</table>
## TEXAS TECH UNIVERSITY
### Summary of Awards

01/01/2010 to 12/31/2010

### College of Engineering

<table>
<thead>
<tr>
<th>No of awards for College of Engineering</th>
<th>1.55</th>
<th>F&amp;A Amount</th>
<th>Award Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credited Amounts, F&amp;A and awarded</td>
<td></td>
<td>$38,236.50</td>
<td>$180,748.00</td>
</tr>
</tbody>
</table>

### Other Units and Activities

#### Wind Sci & Engr Research Ctr (Ind)

<table>
<thead>
<tr>
<th>Proposal No: 101368 Project Type: Research, Restricted</th>
<th>International Component?</th>
<th>Project Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title: FY 10 Great Plains Wind Power Test Facility</td>
<td>N</td>
<td>09/01/2009 - 08/31/2010</td>
</tr>
<tr>
<td>Agency: U.S. Department of Energy</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Facilities and Administrative Costs

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Giesselmann, Michael G</td>
<td>2.00%</td>
<td>01/15/2010</td>
<td>FR On Campus</td>
<td>46.50%</td>
<td>$750.26</td>
<td>$4,000.00</td>
</tr>
<tr>
<td>Giesselmann, Michael G</td>
<td>2.00%</td>
<td>01/29/2010</td>
<td>FR On Campus</td>
<td>46.50%</td>
<td>$9,748.76</td>
<td>$34,059.96</td>
</tr>
</tbody>
</table>

### Credited Total Costs:

$10,499.02 $38,059.96

<table>
<thead>
<tr>
<th>Proposal No: 101368 Project Type: Research, Restricted</th>
<th>International Component?</th>
<th>Project Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title: TTU FY 11 Great Plains Wind Power Test Facility (DOE FY10)</td>
<td>N</td>
<td>09/01/2010 - 08/31/2012</td>
</tr>
<tr>
<td>Agency: U.S. Department of Energy</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Facilities and Administrative Costs

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Giesselmann, Michael G</td>
<td>3.00%</td>
<td>09/01/2010</td>
<td>FR On Campus</td>
<td>46.50%</td>
<td>$16,924.38</td>
<td>$60,000.00</td>
</tr>
</tbody>
</table>

### Credited Total Costs:

$16,924.38 $60,000.00

<table>
<thead>
<tr>
<th>No of awards for Wind Sci &amp; Engr Research Ctr (Ind)</th>
<th>0.07</th>
<th>F&amp;A Amount</th>
<th>Award Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credited Amounts, F&amp;A and awarded</td>
<td></td>
<td>$27,423.40</td>
<td>$98,059.96</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No of awards for Other Units and Activities</th>
<th>.07</th>
<th>F&amp;A Amount</th>
<th>Award Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credited Amounts, F&amp;A and awarded</td>
<td></td>
<td>$27,423.40</td>
<td>$98,059.96</td>
</tr>
</tbody>
</table>

### OVERALL TOTAL NUMBER OF AWARDS:

1.62

### OVERALL TOTAL AMOUNTS, F&A AND AWARDS:

$65,659.90 $278,807.96

---

**Key to Facilities and Administrative Costs Recovery Type**

Administrative Fee = Administrative fee assessed in lieu of F&A

FR Off Campus = Full Recovery, Off Campus Rate
## TEXAS TECH UNIVERSITY
### Summary of Awards

01/01/2010 to 12/31/2010

### College of Engineering

**Ctr for Pulsed Pwr, Pwr Electronics**

<table>
<thead>
<tr>
<th>Proposal No:</th>
<th>4202</th>
<th>Project Type:</th>
<th>Research, Restricted</th>
<th>International Component?</th>
<th>Project</th>
<th>Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title:</td>
<td>MURI Distributed Railgun Development for Affordable Space Access</td>
<td>N</td>
<td>Project No: 05/15/2005 - 11/30/2010</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agency:</td>
<td>AFOSR/University of Texas Austin</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Giesselmann, Michael G</td>
<td>100.00%</td>
<td>03/24/2010</td>
<td>FR On Campus</td>
<td>46.50%</td>
<td>$22,107.00</td>
<td>$84,998.00</td>
</tr>
</tbody>
</table>

**Facilities and Administrative Costs**

**Credited Total Costs:**

$22,107.00

<table>
<thead>
<tr>
<th>Proposal No:</th>
<th>103740</th>
<th>Project Type:</th>
<th>Research, Restricted</th>
<th>International Component?</th>
<th>Project</th>
<th>Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title:</td>
<td>Semiconductor Evaluation for EM Gun Applications</td>
<td>N</td>
<td>Project No: 03/10/2010 - 03/09/2013</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agency:</td>
<td>U.S. Army Research Office</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Giesselmann, Michael G</td>
<td>50.00%</td>
<td>03/10/2010</td>
<td>FR On Campus</td>
<td>46.50%</td>
<td>$16,129.50</td>
<td>$75,000.00</td>
</tr>
</tbody>
</table>

**Facilities and Administrative Costs**

**Credited Total Costs:**

$16,129.50

| No. of awards for Ctr for Pulsed Pwr, Pwr Electronics | 1.50 |
| Credited Amounts, F&A and awarded | $159,998.00 |

### Electrical and Computer Engr

**Proposal No: 104439**

<table>
<thead>
<tr>
<th>Project Type:</th>
<th>Research, Restricted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title:</td>
<td>MRI-Development of Real Time Simulator for Smart Grid Systems Integrated with Distributed Renewable Energy Sources</td>
</tr>
<tr>
<td>Agency:</td>
<td>NII Science Foundation</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Giesselmann, Michael G</td>
<td>5.00%</td>
<td>09/14/2010</td>
<td>NR Mandatory</td>
<td>0.00%</td>
<td>$0.00</td>
<td>$20,750.00</td>
</tr>
</tbody>
</table>

**Facilities and Administrative Costs**

**Credited Total Costs:**

$0.00

| No. of awards for Electrical and Computer Engr | 0.05 |
| Credited Amounts, F&A and awarded | $20,750.00 |
# TEXAS TECH UNIVERSITY
## Summary of Awards
01/01/2010 to 12/31/2010

### Other Units and Activities

#### Wind Sci & Engr Research Ctr (Ind)

<table>
<thead>
<tr>
<th>Proposal No:</th>
<th>Project Type:</th>
<th>International Component?</th>
<th>Project Period</th>
<th>Facilities and Administrative Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>102422</td>
<td>Research, Restricted</td>
<td>N</td>
<td>09/01/2008 - 08/31/2011</td>
<td></td>
</tr>
</tbody>
</table>

**Title:** RET SUPPLEMENT: Hyperspectral Imagery: A New Frontier for Windstorm Damage Assessment

**Agency:** Ntl Science Foundation

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baker, Mary C</td>
<td>10.00%</td>
<td>08/26/2010</td>
<td>Reduced Mandatory</td>
<td>25.00%</td>
<td>$180.00</td>
<td>$1,000.00</td>
</tr>
</tbody>
</table>

**Credited Total Costs:**

- $180.00
- $1,000.00

**No. of awards for Wind Sci & Engr Research Ctr (Ind)**

- Credited Amounts, F&A and awarded: 0.10
  - F&A Amount: $180.00
  - Award Amount: $1,000.00

**No. of awards for Other Units and Activities**

- Credited Amounts, F&A and awarded: 0.1
  - F&A Amount: $180.00
  - Award Amount: $1,000.00

### OVERALL TOTAL NUMBER OF AWARDS:

- 0.49

### OVERALL TOTAL AMOUNTS, F&A AND AWARDS:

- $20,627.32
- $227,962.60

**Key to Facilities and Administrative Costs Recovery Type**

- Administrative Fee = Administrative fee assessed in lieu of F&A
- FR Off Campus = Full Recovery, Off Campus Rate
- FR On Campus = Full Recovery, On Campus Rate
- FR On-Off Combined = Full Recovery, On Campus/Off Campus Combination
- NR Voluntary = No Recovery, Voluntary Waiver
- NR Mandatory = No Recovery, Mandatory by sponsor policy
- Reduced Voluntary = Amount voluntarily reduced
- Reduced Mandatory = Amount reduced by sponsor policy
- NR Other No Budget = Non-monetary or other awards not budgeted
# TEXAS TECH UNIVERSITY
## Summary of Awards
### 01/01/2010 to 12/31/2010

### College of Engineering

#### Electrical and Computer Engr

<table>
<thead>
<tr>
<th>Proposal No:</th>
<th>102273</th>
<th>Project Type:</th>
<th>Research, Restricted</th>
<th>International Component:</th>
<th>N</th>
<th>Project Period:</th>
<th>03/15/2008 - 02/29/2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title:</td>
<td>GK-12: Building Bridges: Integrating Mathematics, Science, and Engineering Education on the South Plains</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agency:</td>
<td>NNI Science Foundation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Facilities and Administrative Costs**

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baker, Mary C</td>
<td>25.00%</td>
<td>08/25/2010</td>
<td>FR On Campus</td>
<td>46.50%</td>
<td>$13,900.50</td>
<td>$137,049.00</td>
</tr>
</tbody>
</table>

**Credited Total Costs:**

- $13,900.50
- $137,049.00

---

<table>
<thead>
<tr>
<th>Proposal No:</th>
<th>102933</th>
<th>Project Type:</th>
<th>Research, Restricted</th>
<th>International Component:</th>
<th>N</th>
<th>Project Period:</th>
<th>06/01/2008 - 10/15/2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title:</td>
<td>Middle School Math and Science (MS)2: Understanding by Design</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agency:</td>
<td>Greater Texas Foundation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Facilities and Administrative Costs**

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baker, Mary C</td>
<td>14.00%</td>
<td>09/23/2010</td>
<td>Reduced Mandatory</td>
<td>8.00%</td>
<td>$6,546.82</td>
<td>$89,913.60</td>
</tr>
</tbody>
</table>

**Credited Total Costs:**

- $6,546.82
- $89,913.60

### No. of awards for Electrical and Computer Engr Credited Amounts, F&A and awarded

- 0.39
- F&A Amount: $20,447.32
- Award Amount: $226,962.60

### No. of awards for College of Engineering Credited Amounts, F&A and awarded

- 0.39
- F&A Amount: $20,447.32
- Award Amount: $226,962.60

---

### Other Units and Activities

#### Wind Sci & Engr Research Ctr (Ind)
## TEXAS TECH UNIVERSITY
### Summary of Awards
#### 01/01/2010 to 12/31/2010

### College of Engineering

#### Ctr for Pulsed Pwr, Pwr Electronics

<table>
<thead>
<tr>
<th>Proposal No: 100733</th>
<th>Project Type: Research, Restricted</th>
<th>International Component?</th>
<th>Project Period</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>N</td>
<td>09/20/2005 - 05/04/2012</td>
</tr>
</tbody>
</table>

**Title:** Compact Pulsed Power for Defense Applications

**Agency:** US Army Space & Missile Defense Command

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kristiansen, Magne</td>
<td>20.00%</td>
<td>04/26/2010</td>
<td>FR On Campus</td>
<td>46.50%</td>
<td>$3,174.00</td>
<td>$10,000.00</td>
</tr>
<tr>
<td>Kristiansen, Magne</td>
<td>20.00%</td>
<td>04/22/2010</td>
<td>FR On Campus</td>
<td>46.50%</td>
<td>$146,417.80</td>
<td>$564,024.00</td>
</tr>
</tbody>
</table>

**Facilities and Administrative Costs**

<table>
<thead>
<tr>
<th></th>
<th>F&amp;A Amount</th>
<th>Award Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credited Total Costs:</td>
<td>$149,591.80</td>
<td>$574,024.00</td>
</tr>
</tbody>
</table>

No. of awards for Ctr for Pulsed Pwr, Pwr Electronics: 0.40

Credited Amounts, F&A and awarded: $149,591.80

No of awards for College of Engineering:

Credited Amounts, F&A and awarded: $149,591.80

**OVERALL TOTAL NUMBER OF AWARDS:** 0.40

**OVERALL TOTAL AMOUNTS, F&A AND AWARDS:** $149,591.80 $574,024.00

---

**Key to Facilities and Administrative Costs Recovery Type**

- Administrative Fee = Administrative fee assessed in lieu of F&A
- FR Off Campus = Full Recovery, Off Campus Rate
- FR On Campus = Full Recovery, On Campus Rate
- FR On-Off Combined = Full Recovery, On Campus/Off Campus Combination
- NR Voluntary = No Recovery, Voluntary Waiver
- NR Mandatory = No Recovery, Mandatory by sponsor policy
- Reduced Voluntary = Amount voluntarily reduced
- Reduced Mandatory = Amount reduced by sponsor policy
- NR Other No Budget = Non-monetary or other awards not budgeted
# TEXAS TECH UNIVERSITY
Summary of Awards
01/01/2010 to 12/31/2010

## OVERALL TOTAL NUMBER OF AWARDS:

---

## OVERALL TOTAL AMOUNTS, F&A AND AWARDS:

**Key to Facilities and Administrative Costs Recovery Type**

- Administrative Fee = Administrative fee assessed in lieu of F&A
- FR Off Campus = Full Recovery, Off Campus Rate
- FR On Campus = Full Recovery, On Campus Rate
- FR On-Off Combined = Full Recovery, On Campus/Off Campus Combination
- NR Voluntary = No Recovery, Voluntary Waiver
- NR Mandatory = No Recovery, Mandatory by sponsor policy
- Reduced Voluntary = Amount voluntarily reduced
- Reduced Mandatory = Amount reduced by sponsor policy
- NR Other No Budget = Non-monetary or other awards not budgeted

---
TExAS tECH uNIVERSITy
Summary of Awards
01/01/2010 to 12/31/2010

Reduced Voluntary = Amount voluntarily reduced
Reduced Mandatory = Amount reduced by sponsor policy
NR Other No Budget = Non-monetary or other awards not budgeted
### TEXAS TECH UNIVERSITY
#### Summary of Awards

**01/01/2010 to 12/31/2010**

---

**College of Engineering**

<table>
<thead>
<tr>
<th>Nanophotonics Center</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Proposal No:</strong> 104580</td>
</tr>
<tr>
<td><strong>Title:</strong> Nitride Deep UV Emitters with Novel P-type Layer Approach</td>
</tr>
<tr>
<td><strong>Agency:</strong> Defense Advanced Research Projects Agency</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lin, Jingyu</td>
<td>50.00%</td>
<td>09/23/2010</td>
<td>FR On Campus</td>
<td>47.00%</td>
<td>$30,765.50</td>
<td>$123,917.50</td>
</tr>
<tr>
<td>Lin, Jingyu</td>
<td>50.00%</td>
<td>12/08/2010</td>
<td>FR On Campus</td>
<td>47.00%</td>
<td>$30,417.00</td>
<td>$126,094.50</td>
</tr>
</tbody>
</table>

**Credited Total Costs:**

| | $61,182.50 | $250,012.00 |

| **Proposal No:** 102891 | **Project Type:** Research, Restricted |
| **Title:** Optical and Electrical Properties of III-V Nitrides and Related Materials |
| **Agency:** U.S. Department of Energy |

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lin, Jingyu</td>
<td>50.00%</td>
<td>11/17/2010</td>
<td>FR On Campus</td>
<td>46.50%</td>
<td>$23,980.50</td>
<td>$79,000.50</td>
</tr>
</tbody>
</table>

**Credited Total Costs:**

| | $23,980.50 | $79,000.50 |

---

**OVERALL TOTAL NUMBER OF AWARDS:** 5.00

<table>
<thead>
<tr>
<th>No. of awards for</th>
<th>Nanophotonics Center</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credited Amounts, F&amp;A and awarded</td>
<td>2.50</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No. of awards for</th>
<th>College of Engineering</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credited Amounts, F&amp;A and awarded</td>
<td>5</td>
</tr>
</tbody>
</table>

**OVERALL TOTAL AMOUNTS, F&A AND AWARDS:** $194,621.50 $732,876.50

---

**Key to Facilities and Administrative Costs Recovery Type**

- F&A = Administrative Fee assessed in lieu of F&A
- FR Off-Campus = Full Recovery, Off-Campus Rate
- FR On-Campus = Full Recovery, On-Campus Rate
- FR On-Off Combined = Full Recovery, On-Campus/Off-Campus Combination
- NR Voluntary = No Recovery, Voluntary Waiver
- NR Mandatory = No Recovery, Mandatory by sponsor policy
### TEXAS TECH UNIVERSITY
**Summary of Awards**

**01/01/2010 to 12/31/2010**

#### College of Engineering

**Electrical and Computer Engr**

<table>
<thead>
<tr>
<th>Proposal No:</th>
<th>102891</th>
<th>Project Type:</th>
<th>Research, Restricted</th>
<th>International Component:</th>
<th>N</th>
<th>Project Period</th>
<th>12/01/2008 - 11/30/2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title:</td>
<td>Optical and Electrical Properties of III-V Nitrides and Related Materials</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agency:</td>
<td>U.S. Department of Energy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lin, Jingyu</td>
<td>50.00%</td>
<td>02/02/2010</td>
<td>FR On Campus</td>
<td>46.50%</td>
<td>$24,032.00</td>
<td>$78,999.50</td>
</tr>
</tbody>
</table>

**Facilities and Administrative Costs**

**Credited Total Costs:**

- $24,032.00
- $78,999.50

**No. of awards for Electrical and Computer Engr**

- 2.50

**Credited Amounts, F&A and awarded**

- $77,735.00
- $288,364.00

#### Nanophotonics Center

**Proposition No: 104428**

<table>
<thead>
<tr>
<th>Proposal No:</th>
<th>104428</th>
<th>Project Type:</th>
<th>Research, Restricted</th>
<th>International Component:</th>
<th>N</th>
<th>Project Period</th>
<th>09/15/2010 - 08/31/2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title:</td>
<td>ARI-MA: Collaborative Research: Hexagonal Boron Nitride Based Neutron Detectors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agency:</td>
<td>NII Science Foundation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lin, Jingyu</td>
<td>50.00%</td>
<td>09/16/2010</td>
<td>FR On Campus</td>
<td>46.50%</td>
<td>$27,550.50</td>
<td>$100,000.00</td>
</tr>
</tbody>
</table>

**Facilities and Administrative Costs**

**Credited Total Costs:**

- $27,550.50
- $100,000.00

**Proposition No: 104711**

<table>
<thead>
<tr>
<th>Proposal No:</th>
<th>104711</th>
<th>Project Type:</th>
<th>Research, Restricted</th>
<th>International Component:</th>
<th>N</th>
<th>Project Period</th>
<th>06/29/2010 - 06/28/2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title:</td>
<td>III-Nitride 1.5 Micron Photonic Devices on Si Substrates</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agency:</td>
<td>Army Research Office/III-N Technology Inc</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lin, Jingyu</td>
<td>50.00%</td>
<td>10/08/2010</td>
<td>FR On Campus</td>
<td>47.00%</td>
<td>$4,173.00</td>
<td>$15,500.00</td>
</tr>
</tbody>
</table>

**Facilities and Administrative Costs**

**Credited Total Costs:**

- $4,173.00
- $15,500.00
### College of Engineering

#### Electrical and Computer Engr

**Proposal No:** 103070  **Project Type:** Research, Restricted  **International Component:** N  **Project Period:** 08/15/2008 - 07/31/2011  **Title:** 1.54 Micron Optical Amplifiers and Emitters Based Upon Erbium Doped III-Nitrides Grown on Silicon  **Agency:** NII Science Foundation

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lin, Jingyu</td>
<td>50.00%</td>
<td>05/18/2010</td>
<td>Reduced Mandatory</td>
<td>46.00%</td>
<td>$7,820.00</td>
<td>$54,602.50</td>
</tr>
</tbody>
</table>

**Facilities and Administrative Costs**

**Credited Total Costs:**  
$7,820.00  
$54,602.50

**Proposal No:** 103195  **Project Type:** Research, Restricted  **International Component:** N  **Project Period:** 07/01/2009 - 06/30/2011  **Title:** ARRA-Bridging the Miscibility Gap in InGaN Alloys  **Agency:** NII Science Foundation

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lin, Jingyu</td>
<td>50.00%</td>
<td>04/21/2010</td>
<td>FR On Campus</td>
<td>46.50%</td>
<td>$24,274.00</td>
<td>$79,762.00</td>
</tr>
</tbody>
</table>

**Facilities and Administrative Costs**

**Credited Total Costs:**  
$24,274.00  
$79,762.00

**Proposal No:** 102924  **Project Type:** Research, Restricted  **International Component:** N  **Project Period:** 09/15/2008 - 01/14/2011  **Title:** High Al-Content AlGaN Alloys for Deep UV Laser Applications  **Agency:** U.S. Army Research Office

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lin, Jingyu</td>
<td>50.00%</td>
<td>04/26/2010</td>
<td>Reduced Mandatory</td>
<td>46.00%</td>
<td>$12,176.50</td>
<td>$43,062.50</td>
</tr>
<tr>
<td>Lin, Jingyu</td>
<td>50.00%</td>
<td>01/11/2010</td>
<td>Reduced Mandatory</td>
<td>46.00%</td>
<td>$9,432.50</td>
<td>$31,937.50</td>
</tr>
</tbody>
</table>

**Facilities and Administrative Costs**

**Credited Total Costs:**  
$21,609.00  
$75,000.00
<table>
<thead>
<tr>
<th>Description</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduced Voluntary</td>
<td>Amount voluntarily reduced</td>
</tr>
<tr>
<td>Reduced Mandatory</td>
<td>Amount reduced by sponsor policy</td>
</tr>
<tr>
<td>NR Other No Budget</td>
<td>Non-monetary or other awards not budgeted</td>
</tr>
</tbody>
</table>
# TEXAS TECH UNIVERSITY
## Summary of Awards
### 01/01/2010 to 12/31/2010

### College of Engineering

**Ctr for Pulsed Pwr, Pwr Electronics**

<table>
<thead>
<tr>
<th>Proposal No: 104478</th>
<th>Project Type: Research, Restricted</th>
<th>International Component?</th>
<th>Project Period</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>08/16/2010 - 05/31/2011</td>
</tr>
</tbody>
</table>

**Title:** Lightning Bug Project Support

**Agency:** DOD/General Dynamics Advanced Information Systems

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dickens ,James C</td>
<td>50.00%</td>
<td>08/30/2010</td>
<td>FR On Campus</td>
<td>46.50%</td>
<td>$42,208.00</td>
<td>$173,278.50</td>
</tr>
</tbody>
</table>

### Credited Total Costs:

<table>
<thead>
<tr>
<th>Proposal No: 102480</th>
<th>Project Type: Research, Restricted</th>
<th>International Component?</th>
<th>Project Period</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>03/01/2008 - 11/30/2010</td>
</tr>
</tbody>
</table>

**Title:** VUV Radiation and Breakdown (Barker/NE)

**Agency:** Air Force Office of Scientific Research

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dickens ,James C</td>
<td>50.00%</td>
<td>02/04/2010</td>
<td>FR On Campus</td>
<td>46.50%</td>
<td>$31,761.00</td>
<td>$106,741.00</td>
</tr>
<tr>
<td>Dickens ,James C</td>
<td>50.00%</td>
<td>11/11/2010</td>
<td>FR On Campus</td>
<td>46.50%</td>
<td>$2,310.00</td>
<td>$7,783.00</td>
</tr>
</tbody>
</table>

### Credited Total Costs:

<table>
<thead>
<tr>
<th>No. of awards for</th>
<th>Ctr for Pulsed Pwr, Pwr Electronics Credited Amounts, F&amp;A and awarded</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4.70</td>
</tr>
<tr>
<td></td>
<td>$497,596.20</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No. of awards for</th>
<th>College of Engineering Credited Amounts, F&amp;A and awarded</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4.7</td>
</tr>
<tr>
<td></td>
<td>$497,596.20</td>
</tr>
</tbody>
</table>

### OVERALL TOTAL NUMBER OF AWARDS: 4.70

### OVERALL TOTAL AMOUNTS,F&A AND AWARDS: $497,596.20 $1,886,614.50

**Key to Facilities and Administrative Costs Recovery Type**

- Administrative Fee = Administrative fee assessed in lieu of F&A
- FR Off Campus = Full Recovery, Off Campus Rate
- FR On Campus = Full Recovery, On Campus Rate
- FR Off/On Combined = Full Recovery, On Campus/Off Campus Combination
- NR Voluntary = No Recovery, Voluntary Waiver
- NR Mandatory = No Recovery, Mandatory by sponsor policy
## College of Engineering

### Ctr for Pulsed Pwr, Pwr Electronics

<table>
<thead>
<tr>
<th>Proposal No:</th>
<th>100733</th>
<th>Project Type:</th>
<th>Research, Restricted</th>
<th>International Component?</th>
<th>N</th>
<th>Project Period</th>
<th>09/20/2005 - 05/04/2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title:</td>
<td>Compact Pulsed Power for Defense Applications</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agency:</td>
<td>US Army Space &amp; Missile Defense Command</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investigator</td>
<td>Dickens, James C</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Credit</td>
<td>40.00%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ORS Log Date</td>
<td>04/26/2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recovery Type</td>
<td>FR On Campus</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rate</td>
<td>46.50%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amount</td>
<td>$6,348.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Award Amt Credited</td>
<td>$20,000.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Credited Total Costs:**

<table>
<thead>
<tr>
<th>Proposal No:</th>
<th>103130</th>
<th>Project Type:</th>
<th>Research, Restricted</th>
<th>International Component?</th>
<th>N</th>
<th>Project Period</th>
<th>03/01/2009 - 11/30/2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title:</td>
<td>Counter HPM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agency:</td>
<td>AFOSR/University of Wisconsin</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investigator</td>
<td>Dickens, James C</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Credit</td>
<td>40.00%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ORS Log Date</td>
<td>03/03/2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recovery Type</td>
<td>FR On Campus</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rate</td>
<td>46.50%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amount</td>
<td>$23,315.60</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Award Amt Credited</td>
<td>$76,000.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Credited Total Costs:**

<table>
<thead>
<tr>
<th>Proposal No:</th>
<th>103834</th>
<th>Project Type:</th>
<th>Research, Restricted</th>
<th>International Component?</th>
<th>N</th>
<th>Project Period</th>
<th>12/01/2009 - 12/31/2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title:</td>
<td>Enabling Technology for Compact Directed Energy Systems Addressing Asymmetric Explosive Threats</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agency:</td>
<td>Office of Naval Research</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investigator</td>
<td>Dickens, James C</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Credit</td>
<td>100.00%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ORS Log Date</td>
<td>11/04/2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recovery Type</td>
<td>FR On Campus</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rate</td>
<td>46.50%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amount</td>
<td>$9,008.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Award Amt Credited</td>
<td>$34,158.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Credited Total Costs:**

<table>
<thead>
<tr>
<th>Proposal No:</th>
<th>103834</th>
<th>Project Type:</th>
<th>Research, Restricted</th>
<th>International Component?</th>
<th>N</th>
<th>Project Period</th>
<th>12/01/2009 - 12/31/2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title:</td>
<td>Enabling Technology for Compact Directed Energy Systems Addressing Asymmetric Explosive Threats</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agency:</td>
<td>Office of Naval Research</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investigator</td>
<td>Dickens, James C</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Credit</td>
<td>100.00%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ORS Log Date</td>
<td>02/18/2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recovery Type</td>
<td>FR On Campus</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rate</td>
<td>46.50%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amount</td>
<td>$89,810.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Award Amt Credited</td>
<td>$340,606.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Credited Total Costs:**

<table>
<thead>
<tr>
<th>Proposal No:</th>
<th>103834</th>
<th>Project Type:</th>
<th>Research, Restricted</th>
<th>International Component?</th>
<th>N</th>
<th>Project Period</th>
<th>12/01/2009 - 12/31/2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title:</td>
<td>Enabling Technology for Compact Directed Energy Systems Addressing Asymmetric Explosive Threats</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agency:</td>
<td>Office of Naval Research</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investigator</td>
<td>Dickens, James C</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Credit</td>
<td>100.00%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ORS Log Date</td>
<td>11/04/2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recovery Type</td>
<td>FR On Campus</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rate</td>
<td>46.50%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amount</td>
<td>$9,008.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Award Amt Credited</td>
<td>$34,158.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Credited Total Costs:**

<table>
<thead>
<tr>
<th>Proposal No:</th>
<th>103834</th>
<th>Project Type:</th>
<th>Research, Restricted</th>
<th>International Component?</th>
<th>N</th>
<th>Project Period</th>
<th>12/01/2009 - 12/31/2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title:</td>
<td>Enabling Technology for Compact Directed Energy Systems Addressing Asymmetric Explosive Threats</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agency:</td>
<td>Office of Naval Research</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investigator</td>
<td>Dickens, James C</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Credit</td>
<td>100.00%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ORS Log Date</td>
<td>02/18/2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recovery Type</td>
<td>FR On Campus</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rate</td>
<td>46.50%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amount</td>
<td>$89,810.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Award Amt Credited</td>
<td>$340,606.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Credited Total Costs:**

<table>
<thead>
<tr>
<th>Proposal No:</th>
<th>103834</th>
<th>Project Type:</th>
<th>Research, Restricted</th>
<th>International Component?</th>
<th>N</th>
<th>Project Period</th>
<th>12/01/2009 - 12/31/2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title:</td>
<td>Enabling Technology for Compact Directed Energy Systems Addressing Asymmetric Explosive Threats</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agency:</td>
<td>Office of Naval Research</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investigator</td>
<td>Dickens, James C</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Credit</td>
<td>100.00%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ORS Log Date</td>
<td>11/04/2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recovery Type</td>
<td>FR On Campus</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rate</td>
<td>46.50%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amount</td>
<td>$9,008.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Award Amt Credited</td>
<td>$34,158.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Credited Total Costs:**

<table>
<thead>
<tr>
<th>Proposal No:</th>
<th>103834</th>
<th>Project Type:</th>
<th>Research, Restricted</th>
<th>International Component?</th>
<th>N</th>
<th>Project Period</th>
<th>12/01/2009 - 12/31/2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title:</td>
<td>Enabling Technology for Compact Directed Energy Systems Addressing Asymmetric Explosive Threats</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agency:</td>
<td>Office of Naval Research</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investigator</td>
<td>Dickens, James C</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Credit</td>
<td>100.00%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ORS Log Date</td>
<td>02/18/2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recovery Type</td>
<td>FR On Campus</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rate</td>
<td>46.50%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amount</td>
<td>$89,810.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Award Amt Credited</td>
<td>$340,606.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Credited Total Costs:**

<table>
<thead>
<tr>
<th>Proposal No:</th>
<th>103834</th>
<th>Project Type:</th>
<th>Research, Restricted</th>
<th>International Component?</th>
<th>N</th>
<th>Project Period</th>
<th>12/01/2009 - 12/31/2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title:</td>
<td>Enabling Technology for Compact Directed Energy Systems Addressing Asymmetric Explosive Threats</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agency:</td>
<td>Office of Naval Research</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investigator</td>
<td>Dickens, James C</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### TEXAS TECH UNIVERSITY

**Summary of Awards**

01/01/2010 to 12/31/2010

- **Reduced Voluntary** = Amount voluntarily reduced
- **Reduced Mandatory** = Amount reduced by sponsor policy
- **NR Other No Budget** = Non-monetary or other awards not budgeted
**Texas Tech University**  
**Summary of Awards**  
01/01/2010 to 12/31/2010

### College of Engineering

#### Nanophotonics Center

<table>
<thead>
<tr>
<th>Proposal No: 104580</th>
<th>Project Type: Research, Restricted</th>
<th>International Component</th>
<th>Project Period</th>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Jiang, Hongxing</td>
<td>50.00%</td>
<td>09/23/2010</td>
<td>FR On Campus</td>
<td>47.00%</td>
<td>$30,765.50</td>
<td>$123,917.50</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Jiang, Hongxing</td>
<td>50.00%</td>
<td>12/08/2010</td>
<td>FR On Campus</td>
<td>47.00%</td>
<td>$30,417.00</td>
<td>$126,094.50</td>
</tr>
</tbody>
</table>

**Credited Total Costs:**
- $61,182.50
- $250,012.00

<table>
<thead>
<tr>
<th>Proposal No: 102891</th>
<th>Project Type: Research, Restricted</th>
<th>International Component</th>
<th>Project Period</th>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Jiang, Hongxing</td>
<td>50.00%</td>
<td>11/17/2010</td>
<td>FR On Campus</td>
<td>46.50%</td>
<td>$23,980.50</td>
<td>$79,000.50</td>
</tr>
</tbody>
</table>

**Credited Total Costs:**
- $23,980.50
- $79,000.50

**No. of awards for Nanophotonics Center Credited Amounts, F&A and awarded:**
- 2.50

**F&A Amount:** $116,886.50

**Award Amount:** $444,512.50

**No. of awards for College of Engineering Credited Amounts, F&A and awarded:**
- 5

**F&A Amount:** $194,621.50

**Award Amount:** $732,876.50

**Overall Total Number of Awards:**
- 5.00

**Overall Total Amounts, F&A and Awards:**
- $194,621.50
- $732,876.50

**Key to Facilities and Administrative Costs Recovery Type**
- Administrative Fee = Administrative fee assessed in lieu of F&A
- FR Off Campus = Full Recovery, Off Campus Rate
- FR On Campus = Full Recovery, On Campus Rate
- FR On-Off Combined = Full Recovery, On Campus/Off Campus Combination
- NR Voluntary = No Recovery, Voluntary Waiver
- NR Mandatory = No Recovery, Mandatory by sponsor policy
### College of Engineering

**Electrical and Computer Engr**

**Proposal No:** 102891  
**Project Type:** Research, Restricted  
**International Component?** N  
**Project Period:** 12/01/2008 - 11/30/2010

**Title:** Optical and Electrical Properties of III-V Nitrides and Related Materials

**Agency:** U.S. Department of Energy

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jiang, Hongxing</td>
<td>50.00%</td>
<td>02/02/2010</td>
<td>FR On Campus</td>
<td>46.50%</td>
<td>$24,032.00</td>
<td>$78,999.50</td>
</tr>
</tbody>
</table>

**Facilities and Administrative Costs**

**Award Amount**

Credited Total Costs: $24,032.00

| No. of awards for Electrical and Computer Engr | 2.50 | F&A Amount | $77,735.00 | Award Amount | $288,364.00 |

### Nanophotonics Center

**Proposal No:** 104428  
**Project Type:** Research, Restricted  
**International Component?** N  
**Project Period:** 09/15/2010 - 08/31/2011

**Title:** ARI-MA: Collaborative Research: Hexagonal Boron Nitride Based Neutron Detectors

**Agency:** NSF Science Foundation

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jiang, Hongxing</td>
<td>50.00%</td>
<td>09/16/2010</td>
<td>FR On Campus</td>
<td>46.50%</td>
<td>$27,550.50</td>
<td>$100,000.00</td>
</tr>
</tbody>
</table>

**Facilities and Administrative Costs**

**Award Amount**

Credited Total Costs: $27,550.50

<table>
<thead>
<tr>
<th>Proposal No: 104711</th>
<th>Project Type: Research, Restricted</th>
<th>International Component?</th>
</tr>
</thead>
</table>
| 06/29/2010 - 06/28/2011  
**Title:** III-Nitride 1.5 Micron Photonic Devices on Si Substrates

**Agency:** Army Research Office/III-N Technology Inc

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jiang, Hongxing</td>
<td>50.00%</td>
<td>10/08/2010</td>
<td>FR On Campus</td>
<td>47.00%</td>
<td>$4,173.00</td>
<td>$15,500.00</td>
</tr>
</tbody>
</table>

**Facilities and Administrative Costs**

**Award Amount**

Credited Total Costs: $4,173.00
### College of Engineering

#### Electrical and Computer Engr

<table>
<thead>
<tr>
<th>Proposal No.</th>
<th>Project Type</th>
<th>International Component</th>
<th>Project Period</th>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>103070</td>
<td>Research, Restricted</td>
<td>N</td>
<td>08/15/2008 - 07/31/2011</td>
<td>Jiang, Hongxing</td>
<td>50.00%</td>
<td>05/18/2010</td>
<td>Reduced Mandatory</td>
<td>46.00%</td>
<td>$7,820.00</td>
<td>$54,602.50</td>
</tr>
</tbody>
</table>

**Facilities and Administrative Costs**

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jiang, Hongxing</td>
<td>50.00%</td>
<td>05/18/2010</td>
<td>Reduced Mandatory</td>
<td>46.00%</td>
<td>$7,820.00</td>
<td>$54,602.50</td>
</tr>
</tbody>
</table>

**Credited Total Costs:**

$7,820.00 $54,602.50

<table>
<thead>
<tr>
<th>Proposal No.</th>
<th>Project Type</th>
<th>International Component</th>
<th>Project Period</th>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>103195</td>
<td>Research, Restricted</td>
<td>N</td>
<td>07/01/2009 - 06/30/2011</td>
<td>Jiang, Hongxing</td>
<td>50.00%</td>
<td>04/21/2010</td>
<td>FR On Campus</td>
<td>46.50%</td>
<td>$24,274.00</td>
<td>$79,762.00</td>
</tr>
</tbody>
</table>

**Facilities and Administrative Costs**

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jiang, Hongxing</td>
<td>50.00%</td>
<td>04/21/2010</td>
<td>FR On Campus</td>
<td>46.50%</td>
<td>$24,274.00</td>
<td>$79,762.00</td>
</tr>
</tbody>
</table>

**Credited Total Costs:**

$24,274.00 $79,762.00

<table>
<thead>
<tr>
<th>Proposal No.</th>
<th>Project Type</th>
<th>International Component</th>
<th>Project Period</th>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>102924</td>
<td>Research, Restricted</td>
<td>N</td>
<td>09/15/2008 - 01/14/2011</td>
<td>Jiang, Hongxing</td>
<td>50.00%</td>
<td>04/26/2010</td>
<td>Reduced Mandatory</td>
<td>46.00%</td>
<td>$12,176.50</td>
<td>$43,062.50</td>
</tr>
<tr>
<td>Jiang, Hongxing</td>
<td>50.00%</td>
<td>01/11/2010</td>
<td>Reduced Mandatory</td>
<td>46.00%</td>
<td>$9,432.50</td>
<td>$31,937.50</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Facilities and Administrative Costs**

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jiang, Hongxing</td>
<td>50.00%</td>
<td>04/26/2010</td>
<td>Reduced Mandatory</td>
<td>46.00%</td>
<td>$12,176.50</td>
<td>$43,062.50</td>
</tr>
<tr>
<td>Jiang, Hongxing</td>
<td>50.00%</td>
<td>01/11/2010</td>
<td>Reduced Mandatory</td>
<td>46.00%</td>
<td>$9,432.50</td>
<td>$31,937.50</td>
</tr>
</tbody>
</table>

**Credited Total Costs:**

$21,609.00 $75,000.00
TEXAS TECH UNIVERSITY
Summary of Awards
01/01/2010 to 12/31/2010

OVERALL TOTAL NUMBER OF AWARDS:

OVERALL TOTAL AMOUNTS,F&A AND AWARDS:

<table>
<thead>
<tr>
<th>Key to Facilities and Administrative Costs Recovery Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrative Fee = Administrative fee assessed in lieu of F&amp;A</td>
</tr>
<tr>
<td>FR Off Campus = Full Recovery, Off Campus Rate</td>
</tr>
<tr>
<td>FR On Campus = Full Recovery, On Campus Rate</td>
</tr>
<tr>
<td>FR On-Off Combined = Full Recovery, On Campus/Off Campus Combination</td>
</tr>
<tr>
<td>NR Voluntary = No Recovery, Voluntary Waiver</td>
</tr>
<tr>
<td>NR Mandatory = No Recovery, Mandatory by sponsor policy</td>
</tr>
<tr>
<td>Reduced Voluntary = Amount voluntarily reduced</td>
</tr>
<tr>
<td>Reduced Mandatory = Amount reduced by sponsor policy</td>
</tr>
<tr>
<td>NR Other No Budget = Non-monetary or other awards not budgeted</td>
</tr>
</tbody>
</table>
TEXAS TECH UNIVERSITY
Summary of Awards
01/01/2010 to 12/31/2010

NR Mandatory = No Recovery, Mandatory by sponsor policy
Reduced Voluntary = Amount voluntarily reduced
Reduced Mandatory = Amount reduced by sponsor policy
NR Other No Budget = Non-monetary or other awards not budgeted
### TEXAS TECH UNIVERSITY
Summary of Awards
01/01/2010 to 12/31/2010

#### College of Engineering

**Electrical and Computer Engr**

<table>
<thead>
<tr>
<th>Proposal No: 104608</th>
<th>Project Type: Research, Restricted</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Title:</strong> Enhanced GPU Image Processing Library Functions and Web Interface for Hardware-assisted Human-machine Image Segmentation</td>
<td></td>
</tr>
<tr>
<td><strong>Agency:</strong> Ntl Library of Medicine</td>
<td></td>
</tr>
</tbody>
</table>

#### Facilities and Administrative Costs

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sari-Sarraf, Hamed</td>
<td>60.00%</td>
<td>09/17/2010</td>
<td>FR On Campus</td>
<td>47.00%</td>
<td>$7,931.40</td>
<td>$30,000.00</td>
</tr>
</tbody>
</table>

#### Credited Total Costs:

- **$7,931.40**
- **$30,000.00**

<table>
<thead>
<tr>
<th>Proposal No: 103873</th>
<th>Project Type: Research, Restricted</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Title:</strong> Large-scale Geospatial Image Indexing and Retrieval</td>
<td></td>
</tr>
<tr>
<td><strong>Agency:</strong> DOE/UT-Battelle LLC</td>
<td></td>
</tr>
</tbody>
</table>

#### Facilities and Administrative Costs

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sari-Sarraf, Hamed</td>
<td>100.00%</td>
<td>07/08/2010</td>
<td>FR On Campus</td>
<td>46.50%</td>
<td>$651.00</td>
<td>$2,051.00</td>
</tr>
<tr>
<td>Sari-Sarraf, Hamed</td>
<td>100.00%</td>
<td>12/06/2010</td>
<td>FR On Campus</td>
<td>47.00%</td>
<td>$8,645.00</td>
<td>$33,000.00</td>
</tr>
</tbody>
</table>

#### Credited Total Costs:

- **$9,296.00**
- **$35,051.00**

### Key to Facilities and Administrative Costs Recovery Type

- Administrative Fee = Administrative fee assessed in lieu of F&A
- FR Off Campus = Full Recovery, Off Campus Rate
- FR On Campus = Full Recovery, On Campus Rate
- FR On-Off Combined = Full Recovery, On Campus/Off Campus Combination
- NR Voluntary = No Recovery, Voluntary Waiver

### OVERALL TOTAL NUMBER OF AWARDS:

- **2.60**

### OVERALL TOTAL AMOUNTS, F&A AND AWARDS:

- **$17,227.40**
- **$65,051.00**
## TEXAS TECH UNIVERSITY
### Summary of Awards
01/01/2010 to 12/31/2010

| OVERALL TOTAL AMOUNTS, F&A AND AWARDS: | $35,011.04 | $242,304.84 |

### Key to Facilities and Administrative Costs Recovery Type

- **Administrative Fee** = Administrative fee assessed in lieu of F&A
- **FR Off Campus** = Full Recovery, Off Campus Rate
- **FR On Campus** = Full Recovery, On Campus Rate
- **FR On-Off Combined** = Full Recovery, On Campus/Off Campus Combination
- **NR Voluntary** = No Recovery, Voluntary Waiver
- **NR Mandatory** = No Recovery, Mandatory by sponsor policy
- **Reduced Voluntary** = Amount voluntarily reduced
- **Reduced Mandatory** = Amount reduced by sponsor policy
- **NR Other No Budget** = Non-monetary or other awards not budgeted
TEXAS TECH UNIVERSITY
Summary of Awards
01/01/2010 to 12/31/2010

College of Engineering

Chemical Engr

Proposal No: 4474 Project Type: Research, Restricted
International Component? N Project Period
Title: Cyclic Macromolecules: Rheology and Flow Induced Crystallization
Agency: U.S. Department of Energy

Investigator Credit ORS Log Date Recovery Type Rate Amount Award Amt Credited
McKenna, Gregory B 100.00% 05/17/2010 FR On Campus 46.50% $15,902.00 $180,000.00

Credited Total Costs: $15,902.00 $180,000.00

Proposal No: 101838 Project Type: Research, Restricted
International Component? N Project Period
Title: Robust Polymer Films: Nanoscale Stiffening as a Route to Strong Materials
Agency: U.S. Army Research Office

Investigator Credit ORS Log Date Recovery Type Rate Amount Award Amt Credited
McKenna, Gregory B 100.00% 01/07/2010 FR On Campus 46.50% $16,473.00 $54,000.00

Credited Total Costs: $16,473.00 $54,000.00

Proposal No: 103618 Project Type: Research, Restricted
International Component? N Project Period
Title: Synthesis, Characterization, and Environmental Impact Studies of Advanced Energetic Materials
Agency: Dept of Defense/Advanced Technology Institute

Investigator Credit ORS Log Date Recovery Type Rate Amount Award Amt Credited
McKenna, Gregory B 12.00% 02/12/2010 FR On Campus 46.50% $2,636.04 $8,304.84

Credited Total Costs: $2,636.04 $8,304.84

No. of awards for Chemical Engr
Credited Amounts, F&A and awarded: 2.12
F&A Amount $35,011.04 Award Amount $242,304.84

No. of awards for College of Engineering
Credited Amounts, F&A and awarded: 2.12
F&A Amount $35,011.04 Award Amount $242,304.84

OVERALL TOTAL NUMBER OF AWARDS: 2.12
<table>
<thead>
<tr>
<th>Reduced Voluntary</th>
<th>Amount voluntarily reduced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduced Mandatory</td>
<td>Amount reduced by sponsor policy</td>
</tr>
<tr>
<td>NR Other No Budget</td>
<td>Non-monetary or other awards not budgeted</td>
</tr>
<tr>
<td>Proposal No.</td>
<td>Project Type</td>
</tr>
<tr>
<td>------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>104321</td>
<td>Research, Restricted</td>
</tr>
<tr>
<td>103494</td>
<td>Research, Restricted</td>
</tr>
</tbody>
</table>

## Facilities and Administrative Costs

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Credit</th>
<th>ORS Log Date</th>
<th>Recovery Type</th>
<th>Rate</th>
<th>Amount</th>
<th>Award Amt Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lie, Yu-Chun D</td>
<td>100.00%</td>
<td>02/23/2010</td>
<td>NR Mandatory</td>
<td>0.00%</td>
<td>$0.00</td>
<td>$14,400.00</td>
</tr>
</tbody>
</table>

Credited Total Costs:

<p>| | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$0.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$14,400.00</td>
</tr>
</tbody>
</table>

No. of awards for Electrical and Computer Engr: 9
Credited Amounts, F&A and awarded: $19,552.00
Award Amount: $389,400.00

No. of awards for College of Engineering: 9
Credited Amounts, F&A and awarded: $19,552.00
Award Amount: $389,400.00

OVERALL TOTAL NUMBER OF AWARDS: 9

OVERALL TOTAL AMOUNTS, F&A AND AWARDS: $19,552.00 $389,400.00

Key to Facilities and Administrative Costs Recovery Type:

- Administrative Fee = Administrative fee assessed in lieu of F&A
- FR Off Campus = Full Recovery, Off Campus Rate
- FR On Campus = Full Recovery, On Campus Rate
- FR On-Off Combined = Full Recovery, On Campus/Off Campus Combination
- NR Voluntary = No Recovery, Voluntary Waiver
- NR Mandatory = No Recovery, Mandatory by sponsor policy
### TEXAS TECH UNIVERSITY
**Summary of Awards**

**01/01/2010 to 12/31/2010**

**College of Engineering**

**Nano Tech Center**

<table>
<thead>
<tr>
<th>Proposal No:</th>
<th>102148</th>
<th><strong>Project Type:</strong></th>
<th>Research, Restricted</th>
<th><strong>International Component:</strong></th>
<th>N</th>
<th><strong>Project Period:</strong></th>
<th>08/31/2010 - 08/31/2011</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Title:</strong></td>
<td>Nanophotonics Devices Research</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Agency:</strong></td>
<td>U.S. Army</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Facilities and Administrative Costs</strong></th>
<th><strong>Credit</strong></th>
<th><strong>ORS Log Date</strong></th>
<th><strong>Recovery Type</strong></th>
<th><strong>Rate</strong></th>
<th><strong>Amount</strong></th>
<th><strong>Award Amt Credited</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fan, Zhaoyang</td>
<td>16.00%</td>
<td>08/05/2010</td>
<td>FR On Campus</td>
<td>46.50%</td>
<td>$50,960.32</td>
<td>$224,800.00</td>
</tr>
</tbody>
</table>

**Credited Total Costs:**

- **$50,960.32**
- **$224,800.00**

<table>
<thead>
<tr>
<th><strong>No. of awards for</strong></th>
<th><strong>Nano Tech Center Credited Amounts, F&amp;A and awarded</strong></th>
<th>0.16</th>
<th><strong>F&amp;A Amount</strong></th>
<th><strong>Award Amount</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>$50,960.32</td>
<td>$224,800.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>No of awards for</strong></th>
<th><strong>College of Engineering Credited Amounts, F&amp;A and awarded</strong></th>
<th>0.16</th>
<th><strong>F&amp;A Amount</strong></th>
<th><strong>Award Amount</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>$50,960.32</td>
<td>$224,800.00</td>
</tr>
</tbody>
</table>

**OVERALL TOTAL NUMBER OF AWARDS:**

- **0.16**

**OVERALL TOTAL AMOUNTS, F&A AND AWARDS:**

- **$50,960.32**
- **$224,800.00**

**Key to Facilities and Administrative Costs Recovery Type**

| Administrative Fee = Administrative fee assessed in lieu of F&A |
| FR Off Campus = Full Recovery, Off Campus Rate |
| FR On Campus = Full Recovery, On Campus Rate |
| FR On-Off Combined = Full Recovery, On Campus/Off Campus Combination |
| NR Voluntary = No Recovery, Voluntary Waiver |
| NR Mandatory = No Recovery, Mandatory by sponsor policy |
| Reduced Voluntary = Amount voluntarily reduced |
| Reduced Mandatory = Amount reduced by sponsor policy |
| NR Other No Budget = Non-monetary or other awards not budgeted |
APPENDIX A

Strategic Plan

Our departmental strategic plan is located at the following website:
http://www.depts.ttu.edu/ece/Department/strategicplan.php