Outreach and Public Service is a major component of the land grant mission of New Mexico State University. Public service can play a major role in economic development of the local community, enrichment of K-12 education, and exposure of faculty to the demands, problems, and needs of the community. In addition, professional societies rely on public service from professionals in academia for many of their functions. Faculty are encouraged to seek opportunities to provide service to the local community, state, and national government entities, and professional societies for the betterment of society and their own enrichment.

Education is recognized as the primary vehicle of success for persons of all backgrounds. The Klipsch School is dedicated to providing quality educational opportunities at the baccalaureate and graduate levels in electrical and computer engineering that will prepare students for successful careers in private industry, government and academia. Students graduating with a bachelor's degree will have the necessary technical, communication, and critical thinking skills along with a dedication to lifelong learning necessary for a successful, fulfilling and life-long career in electrical and computer engineering. Students graduating with an advanced degree will obtain the advanced technical skills necessary for a successful career in research and development that is critical to maintaining the nation's technological lead.

Research is a necessary component for a strong educational program as well as contributing to the nation's world technological leadership. The Klipsch School will provide an environment which fosters world class research involving faculty and students as a component of a comprehensive educational experience. Faculty and students will strive to stay abreast of and provide leadership in the technical areas of expertise within the Klipsch School through their research endeavors and dissemination of results and new knowledge by publication of results and attendance at regional, national, and international conferences. Research programs within the Klipsch School will enhance graduate classes, continually rejuvenate undergraduate teaching, provide enrichment of faculty and provide well-trained personnel for the nation's national laboratories, universities, and industrial laboratories.

KLIPSCH SCHOOL OF ELECTRICAL AND COMPUTER ENGINEERING

MISSION

THE KLIPSCH SCHOOL OF ELECTRICAL AND COMPUTER ENGINEERING IS DEDICATED TO SERVING THE NEEDS OF THE PEOPLE OF NEW MEXICO THROUGH THE LAND GRANT MISSION OF NEW MEXICO STATE UNIVERSITY. IN PARTICULAR:

Education

Research

Outreach and Public Service
Undergraduate Program

UG Enrollment
As of 11/3/14
Total 305
W 32%
NA 4%
H 50%
B 2%
O 2%
Intl 10%
W 9.2%

Performance
FR(54)
Total 305
SO(55) Mean GPA 3.3 Median 3.4
W 32%
JR(71) Mean GPA 3 Median 3.2
NA 4%
SR(125) Mean GPA 3.1 Median 3.1
H 50%
B 2%
O 2%
Intl 10%
W 9.2%
Graduating Seniors Fall '14 – 11
Mean GPA  3.5

Graduating Seniors Fall '14 – 26
Using Teaching Assistantship To Recruit

- PhD for New Faculty
- Quality

ME Degree

EE501

Research Methods, Writing, Safety, Technical Topics
Research

- 21 Faculty
- ~$3.3 M
- 17 Faculty
- ~$2.4 M
<table>
<thead>
<tr>
<th>Area</th>
<th>Faculty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communications</td>
<td>Deva Borah, Joerg Kliewer</td>
</tr>
<tr>
<td>Computers</td>
<td>Jeanine Cook, Hong Huang, Vojin G. Oklobdzija</td>
</tr>
<tr>
<td>Control Systems</td>
<td>Ram Prasad, Robert Paz</td>
</tr>
<tr>
<td>Digital Signal Processing</td>
<td>Laura Boucheron, Charles Creusere, Phillip Deleon</td>
</tr>
<tr>
<td>Electromagnetics</td>
<td>Muhammad Dawood, Kwong Ng</td>
</tr>
<tr>
<td>Electric Power Systems</td>
<td>Sukumar Brahma, Wenxin Liu, Satish Ranade, Steve Bukowski (SWTDI), Milan Biswal (Post Doc)</td>
</tr>
<tr>
<td>Microelectronics</td>
<td>Paul Furth, Jaime Ramirez-Angulo, Vojin G. Oklobdzija</td>
</tr>
<tr>
<td>Photonics</td>
<td>Sang-Yeon Cho, David Voelz, Xifeng Xiao (Research Prof)</td>
</tr>
<tr>
<td>Space Science</td>
<td>Steve Stochaj</td>
</tr>
</tbody>
</table>
ECE STAFF

Bob Hull Retired

Bill Smith Retires Dec ‘14
RECOGNITION

Brenner Thome  ECE Outstanding Graduating Senior  December ‘14

Phillip DeLeon  COE Achievement Award  Fall ‘14

Phillip DeLeon  Klipsch Distinguished Professor
(Ceremony 3 PM, 11/7/14 Klipsch Museum)

Steven Stochaj  University Research Council – Distinguished Service
New Research Awards

NSF CREST CENTER (CS- EE) $5M 5 Years
Pontelli, Yeoh, Tran, Cao, Misra CS; Ranade Brahma Huang ECE

NSF Collaborative Research:CCSS:Low-ComplexityWireless Sensor Architectures Based on Asynchronous Processing
$ 200 K
Wei Tang

NSF CIF:Medium: Assessment and modeling of temporal variation in perceived audio and video quality using direct brainwave measurement,
Chuck Creusere
Departmental Budget

Faculty Salary budget ~ $2 M

Staff Salary Budget ~ $70K

Overhead Recovered ~ $65K

Operational Budget ~ $70K

Consumables ~ $15K

Software ~ $15K

Equipment/Repair ~ $15K

When faculty leave salary savings from lines revert to college and are returned based on need for adjunct professors.

- Funds use for Drs. Petersen, Taylor and AlKohlani

- Summer funds were given for bottleneck classes

Overhead funds used to help faculty needs, travel, TA, etc.

- Did not need more than ~ $8K

- Cleared a $100K departmental deficit that has been there since the last Century

Budgets going forward will be extremely tight due to hiring of 2 new faculty.
Infrastructure

Building Remodel and Repair
- Restrooms over the next 2 years ~ $170K
- Carpet Rm. 304 and 202.

Academy
- Remodel 204 and 303 – media-ready, collaborative learning spaces ~25 K

Equipment Repair and Renewal
- Space systems Lab (under way) $ 80 K
- RF VLSI Lab (approved) $100K
- T&B Network
# Academy Financial Support

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
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<tbody>
<tr>
<td><strong>Beginning Balance, 10/01/2013</strong></td>
<td>$66,687.82</td>
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<tr>
<td><strong>Deposits</strong></td>
<td>$24,094.97</td>
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<tr>
<td><strong>Expenses</strong></td>
<td>$40,000.84</td>
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<td><strong>Ending Balance, 09/30/2014</strong></td>
<td>$50,781.95</td>
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<table>
<thead>
<tr>
<th>Description</th>
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<tbody>
<tr>
<td>Office Student Aide</td>
<td>$2,097.68</td>
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<tr>
<td>ECEDHA Mem/Reg/Travel</td>
<td>$3,846.86</td>
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<tr>
<td>Gift Cards, etc (Sc. Fair, TA)</td>
<td>$2,410.50</td>
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<tr>
<td>Furniture/Paint</td>
<td>$23,767.31</td>
</tr>
<tr>
<td>Student Club (IEEE, HKN, Banquet)</td>
<td>$1,576.46</td>
</tr>
<tr>
<td>Class Projects()</td>
<td>$3,721.30</td>
</tr>
<tr>
<td>Academy Meeting</td>
<td>$1,629.50</td>
</tr>
<tr>
<td>Telecon</td>
<td>$330.00</td>
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<tr>
<td>Misc. (Faculty travel/registration)</td>
<td>$621.23</td>
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</tbody>
</table>
Risks, Opportunities, Challenges

UG Retention
Lottery now requires 15 credits

Dr. Dawood’s Efforts - Metacognition
Active Learning (ENG100, EE351, EE314)
More careful advising
More visits from Academy
Supplementary Instruction
Implement more of the R2 Recommendations
Risks, Opportunities, Challenges

UG enrolment
2.75 GPA required for admission to NMSU
- guaranteed pathway through CC
- no impact to ECE -- students generally have 2.9 or better

International enrolment may mask decline
Declining number of HS graduates

More direct marketing
Participation in Best Robotics, PREP, Project Lead the way
High school visits/ Lunch and Learn
Risks, Opportunities, Challenges

Timely graduation
Supplementary Instruction
Scholarships

Quality Improvement
Pedagogy
Curriculum Review
Early Intervention (R2 report)
Mandatory Recitation
Supplementary Instruction
Continue to emphasize Labs
Internship experience
Innovation
Risks, Opportunities, Challenges

Graduate Program and Research

Increase enrolment
- ME degree
- MS Program – Attract top students

Research

Funding
- Primarily federal
- Need to Diversify
- ~ $200K/faculty?

Quality/Scholarship
- Publications/Patents – 1-2/faculty?
- MS, PhD degrees

Ranking
INITIATIVES

1. Recruitment
   - High School Visits
   - Web Presence
   - More financial Aid

2. Retention
   - Quality Teaching
   - Early Intervention
   - Student Engagement Pedagogy
   - More financial Aid

3. Curriculum Overhaul

4. Infrastructure
   - Crosno remodel
   - Paint

5. Researcher Support
   - 3 Courses/yr
   - Proposal Development
   - Industry Involvement
   - IP/Commercialization
For ECEA Consideration

Curriculum Overhaul (IAG)

Infrastructure
- Crosno remodel
- Paint

Recruitment and Retention
- Financial Support
  - Students
  - Supplementary Instruction

Researcher Support
- Endowment for graduate fellowships
- Industry contacts – collaborations and sabbaticals