

NMSU College of Engineering Dean's Advisory Council Corporate Feedback

Anthony Medina, Sandia National Laboratories:

Sandia National Laboratories Activities with NMSU

I. Support to NMSU

1. **Graduate Student Research Program.** The Graduate Research Program was implemented at Sandia in 2001 as a means to leverage research investments at its Campus Executive universities. Sandia believes that these student research projects are a means to establish stronger relationships with students so that, at the conclusion of their Ph.D. work, they will look more favorably on employment at Sandia. This program provides \$80K per year to support two Graduate Research PhD students.
2. **Sandia Supported Research at NMSU**

Fiscal Year	# of Research Contracts	Costed Amount
2013	12	\$964K
2012	14	\$1,079K
2011	18	\$1,367K
2010	18	\$314K
2009	20	\$454K
2008	25	\$544K
2007	24	\$640K

3. **Presidential Early Career Award for Scientists and Engineers (PECASE).** Sandia supports NMSU nominees for the DOE/NNSA Defense Programs Presidential Early Career Awards for Scientists and Engineers (PECASE). Candidates for this award are researchers employed by academic institutions who are in the first five years of their independent research careers. This award identifies outstanding scientists and engineers who will advance science and the DOE/NNSA mission. The award is \$250,000, given to the awardees through a \$50,000 per year research contract funded through the Laboratory Directed Research and Development (LDRD) Program.
4. **Truman Fellowship.** Sandia supports NMSU nominees for The Harry S. Truman Fellowship in National Security Science and Engineering Program. Candidates for this position are expected to have solved a major scientific or engineering problem in their thesis work or have provided a new approach or insight to a major problem, as evidenced by a recognized impact in their field.

The Fellowship provides the opportunity for new Ph.D. scientists and engineers to pursue independent research of their own choosing that supports Sandia's national security mission. The appointee is expected to foster creativity and to stimulate exploration of forefront science and technology and high-risk, potentially high-value research and development.

The Truman Fellowship is a three-year appointment normally commencing on October 1. The salary is \$110,800. A panel of senior scientists and engineers at Sandia will review candidates' applications. The deadline is December 5 of each year. For more information, visit our web site shown below.

5. **Recruiting.** Sandia maintains a multifaceted recruiting tradition with NMSU that is very active and has been extremely successful, allowing Sandia to hire the best and brightest NMSU graduates. This system has been very active in recruiting for both technical and administrative positions.


Sandia employs many NMSU graduates who occupy all levels of staffing, from technologist through director. NMSU continues to be a big supplier of quality business and technical graduates to Sandia.

Number of on-roll NMSU graduates	
Directors	4
Senior Managers	17
Management	61
Supervisor	2
Non-Management	482

6. **Student Internships.** Sandia seeks to enhance the educational experience of NMSU students by having them work in real-world situations throughout Sandia National Laboratories. Sandia also hopes to entice high-performing students, through positive work experiences, to consider working for Sandia Laboratories as staff members upon the completion of their educational degrees.
- a. The Sandia Goal for this program is to have a minimum of 15 student interns per year and a target of 30.

7. **Institutional Support of NMSU**

- a. NMSU has requested that a member of Sandia National Laboratories serve on the College of Engineering Dean's Advisory Committee to provide a national laboratories' perspective on issues affecting the operation and management of the College. Sandia has responded by naming Anthony Medina, Director of Energetic Components to this position.
- b. NMSU Alliance for Minority Participation (AMP) board of directors. Sandia's representative to this program is Anthony Medina.
- c. External Advisory Boards:
- Anthony Medina, College of Engineering Dean's Advisory Board
 - Jim Chavez, member, Mechanical Engineering Academy
 - Anthony Baca, Advisory Member, Electric Utility Management Program
 - Shawn Burns, Advisory Council Member, Mechanical Engineering Academy
 - Roy Fitzgerald, member, Business Advisory Council, College of Business
 - Vipin Gupta, member, Honors College Circle of Excellence
 - Clint Hall, advisor, Industrial Advisory Committee
 - David Melgaard, member, Circle of Excellence
 - Tana Lucy, NMSU Foundation Board
 - Basil Hassan, member, Aerospace Engineering Advisory Board
 - Tim Knewitz, member, Accounting Advisory Board
 - Jacqueline Kerby Moore, member, Arrowhead Research Park Advisory Board

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- John Moser, member, Industrial Advisory Board


8. **Top opportunity to expand support to NMSU.** The one area that is not being fully utilized is Sandia-supported research at NMSU. The other two state universities have between 50% and 100% more research work with Sandia. This must be a two-way effort between Sandia and NMSU to improve.

II. I am not a college academy member


III. For COE Board Members

1. Sandia's just completed the hiring of approximately 4000 new employees in the past five years. We therefore do not project significant hiring other than replacing natural attrition rates (which will still be in the 200-300 people per year rate).
2. What should the NMSU COE focus on for the next 5 -10 years.
 - a. I believe NMSU should focus on improving the COE national rankings. This would have the highest immediate payoff in improving the stature of NMSU at Sandia. As a national lab Sandia prides itself on hiring the best and brightest.
 - b. The next area of focus should be on increasing the research done at NMSU. This would both help its profile and enable it to graduate more advanced degrees.
3. What 2-3 topics should we prepare to discuss with the NMSU President and Provost this fall.
 - a. The first topic should be to get NMSU more hiring slots for professors. The college has grown significantly in the last three years and it has not had a commensurate number of new professor slots.
 - b. The second topic would be to inform the President of the need for more capital investment in labs. They should be updated in both general infrastructure and equipment.





Stephen Horan, NASA Langley Research Center:

1. A summary of activities and support to NMSU
 - a. Personal Involvement of COE Dean's Advisory Board Member (i.e., Membership in Engineering Academies, Recruiting, other)
 - i. Stephen Horan: Chair, Board of Directors for ECE Academy; ECEA Board is working with Dr. Ranade on several initiatives to support the Klipsch School.
 - b. Your company's activities at NMSU (including funding, scholarships, etc.)
 - i. Dr. Ma is supported, in part, through a grant from the NASA Space Technology Mission Directorate.
 - ii. Dr. Sanyal has research ties with researchers at NASA Langley Research Center.
 - c. Top opportunities for your company to expand its relationship with NMSU COE
 - i. NASA Langley Research Center cannot directly support NMSU unless it is part of a competed program. I have been sending announcements of opportunities to Dr. Ranade, Dr. Mitchell, and selected faculty members as they come available.
 - ii. All faculty members interested in NASA announcements of opportunity should subscribe to the NASA electronic system at <https://prod.nais.nasa.gov/cgi-bin/nens/index.cgi> and they can find other federal announcements by looking at the links at <https://prod.nais.nasa.gov/pub/fedproc/home.html>.
 - iii. Students looking for co-ops, internships, and new hire opportunities should be looking at USA Jobs (<https://www.usajobs.gov>). This is the site where all NASA announcements are listed for all Centers. The Pathways program is the agency-wide program for bringing in co-ops, internships, and recent-graduate new hires.
 2. For College Academy Members
 - a. Academy representatives should identify what they are doing within their colleges to recapitalize their labs and laboratory equipment. Please be ready to present your activities, funding, and unmet needs.
 - i. The ECEA Board is working with Dr. Ranade on infrastructure needs not covered by the BRR funding for the department. The ECEA is soliciting members to help with this funding. This is seen as the start of a long-term process to extend over the next several years. We will be discussing this activity at the fall ECEA meeting.
 3. For College Academy Members
 - a. What do council members see for the business climate of their industry? Is it in growth mode for more engineers, a changing engineering environment calling for new "types" of engineers/engineering education, a need to replace a significant number of retiring engineers, other?
 - b. What should the NMSU COE focus on for the next 5 -10 years (what is most important to you and your company)
 - c. What 2-3 topics should we prepare to discuss with the NMSU President and Provost this fall?
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Research Collaborations with NMSU

Year	Collaborative Work
2013	<ul style="list-style-type: none">• Undergraduate Fellowship - \$2K• Capstone in ECE - \$3,150 (work is in Fall 2014)
2011	<ul style="list-style-type: none">• Small UAV work - \$145K• UAS airspace integration ~\$1K• Graduate Fellowship - \$15K• Undergraduate Fellowship - \$2K
2010	<ul style="list-style-type: none">• Undergraduate Fellowship - \$2K
2009	<ul style="list-style-type: none">• Graduate Fellowship - \$15K
2008	<ul style="list-style-type: none">• Undergraduate Fellowship - \$2K
2007	<ul style="list-style-type: none">• Undergraduate Fellowship - \$2K
2003-2008	~\$3.7M in funding sent for various projects; mostly related to high-power lasers



New Mexico State University Interns and Full-time hires

Seven Interns past five years

- Johanna Cecava (ME), 2009
- Zachary Mills, (ME), 2009
- Keith Narramore, (ME), 2011
- Aria Furth, (EE), 2012
- Three other interns Summer 2014; includes in GEM Fellow pursuing Graduate PhD program at Rice University (BS from NMSU)

Full-time employees

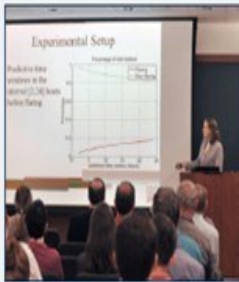
- David Romero, (EE), 2009
- Weston Marlow, (AeroE), 2011
- Total NMSU Alumni: 7 with a degree from NMSU
- Three NMSU graduates accepted to the Lincoln Laboratory Scholar Program at MIT (supported my MIT LL)



Recent Visit by Dean of CoEng and Faculty

KEEPING PACE

New Mexico State University Faculty Visit




Prof. Laura Boucheron, New Mexico State University, presents the seminar, "Space Weather: It's Not Just for Astrophysicists."

On Thursday, 22 May, the Laboratory welcomed Dean Ricardo Jacquez, College of Engineering, and Prof. Laura Boucheron, Klipsch School of Electrical and Computer Engineering, New Mexico State University (NMSU), for a daylong set of events featuring current projects from NMSU and the Laboratory. The Laboratory has maintained strong ties with NMSU through recruiting trips as well as conducted experiments at the university's unmanned aircraft flight test center. This visit sought to further strengthen these ties by giving Jacquez and Boucheron an opportunity to learn more about the exciting, challenging work done at the Laboratory.

Throughout the day, a number of talks and

demonstrations covered the breadth of mission areas and projects from Cyber Security and Information Sciences, Division 5; Aerospace, Division 9; and ISR and Tactical Systems, Division 10, including a tour of the Lincoln Research Network Operations Center (LRNOC), an overview of the Beaver Works initiative, and discussions of the Laboratory's 3D LIDAR achievements. "The goals of this visit are to expose our NMSU visitors to a few of the relevant and difficult problems that we work on here at MIT Lincoln Laboratory," said Dr. Shakti K. Davis, Airborne Radar Systems and Techniques, Group 105, an NSMU alumnus. "We hope our guests leave with a better understanding of the important role that the Laboratory plays in developing technology for national security, and the skill sets that are aligned with the Laboratory's core competencies. Likewise, we hope that attendees of Dr. Boucheron's talk walk away with an appreciation of the technical challenges in predicting space weather, and how automated classifiers may play a future role in protecting our national assets from eruptive solar events. We hope that our visitors will share their experiences with other faculty and students to create new connections and increase our presence on campus."






Richard Montman, Halliburton:

1. A summary of activities and support to NMSU
 - a. Personal Involvement of COE Dean's Advisory Board Member (i.e., Membership in Engineering Academies, Recruiting, other)
 - b. Your company's activities at NMSU (including funding, scholarships, etc.)
 - i. \$55,000 over last 4 years. Extended 27 hiring offers had 21 offers accepted.
 - c. Top opportunities for your company to expand its relationship with NMSU COE
 - i. Increase in engagement with female professional organizations as well as increased hiring of female graduates. Right now Halliburton has no plans to increase the levels of engagement with NMSU COE.
2. For College Academy Members
 - a. Academy representatives should identify what they are doing within their colleges to recapitalize their labs and laboratory equipment. This topic was an issue during the last ABET assessment. Please be ready to present your activities, funding, and unmet needs at the next COE Dean's Advisory Board meeting in August.
3. For COE Board Members
 - a. What do council members see for the business climate of their industry. Is it in growth mode for more engineers, a changing engineering environment calling for new "types" of engineers/engineering education, a need to replace a significant number of retiring engineers, other?
 - i. Demand continues to grow, especially for engineers outside North America but North America growth will be robust as well. Over the next 5 years there will be a number of engineers retiring.
 - b. What should the NMSU COE focus on for the next 5 -10 years (it can't focus on everything, so what is most important to you and your company)
 - i. More graduates will be required, they need to have good communication skills and have a solid engineering foundation. Of late it seems that many of the engineers that we hire aren't capable of doing a proper incident investigation, write a report and communicate the findings.
 - ii. Not a great requirement for graduate students at this time in engineering
 - iii. This is important, especially for our Technology group
 - iv. This is also important, but we have got to do a better job of getting Halliburton's Technology Director and NMSU on the same page.
 - v. No real need at this point in time
 - c. What 2-3 topics should we prepare to discuss with the NMSU President and Provost this fall?
 - i. What it would take to improve the national ranking, what investment is needed to get there.



Peggy Morse, The Boeing Company:


1. A summary of activities and support to NMSU
 - a. Personal Involvement of COE Dean's Advisory Board Member (i.e., Membership in Engineering Academies, Recruiting, other)
 - i. Peggy Morse: Recruiting, Member Of Dean's Advisory Board, Member of Electrical Engineering Academy
 - b. Your company's activities at NMSU (including funding, scholarships, etc.)
 - i. Recruit at Career Fairs, Provide Funding for Scholarships & Student Design Projects, Research in Selected areas, Partnering on Competitive Bids
 - c. Top opportunities for your company to expand its relationship with NMSU COE
 - i. Partnering on Competitive Bids
 2. For College Academy Members
 - a. Academy representatives should identify what they are doing within their colleges to recapitalize their labs and laboratory equipment. Please be ready to present your activities, funding, and unmet needs.
 3. For College Board Members
 - a. What do council members see for the business climate of their industry? Is it in growth mode for more engineers, a changing engineering environment calling for new "types" of engineers/engineering education, a need to replace a significant number of retiring engineers, other?
 - i. We are always hiring new engineers. Even in times of shrinking budgets, we are working on bringing in new college hires and replenishing loss due to normal attritions. We need all kinds of engineers.
 - b. What should the NMSU COE focus on for the next 5 -10 years (what is most important to you and your company)
 - i. Growing the college/producing more graduates
 - ii. Increasing the number of graduate students (i.e., masters and PhDs)
 - iii. Improving the COE national ranking
 - iv. Increasing research
 - v. Starting new educational programs (i.e., like aero a few years back, on-line programs, ...)
 - c. What 2-3 topics should we prepare to discuss with the NMSU President and Provost this fall?
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Bob Myers, Aerojet Rocketdyne

1. A summary of activities and support to NMSU
 - a. Personal Involvement of COE Dean's Advisory Board Member (i.e., Membership in Engineering Academies, Recruiting, other)
 - i. Original Dean's Council member
 - ii. Past Vice President & President of Dean's Council
 - iii. Mechanical and Aerospace Engineering Academy (MAEA) member. Past MAEA President (2x) and representative to Dean's Council.
 - b. Your company's activities at NMSU (including funding, scholarships, etc.)
 - i. Retired from Boeing, Northrop Grumman (NG), Air Force. Past consultant contracts with NG and Aerojet Rocketdyne. However, presently no direct company authority/control of the 'big folks'.
 - ii. Influential with persons within Boeing, Northrop Grumman and Aerojet Rocketdyne to help with NMSU/company relations for research projects, recruiting, Dean's Council offsite, +, +.
 - iii. Assist the MAEA with Dean's Council action items and academy feedback to the Dean.
 - iv. Previously instrumental in getting two Mechanical and Aerospace Engineering Endowments. But, present/near future looks challenging.
 - c. Top opportunities for your company to expand its relationship with NMSU COE
 - i. Not much from a personal/retired perspective; but, some success with persons within previous companies. For College Academy Members
 - d. Academy representatives should identify what they are doing within their colleges to recapitalize their labs and laboratory equipment. This topic was an issue during the last ABET assessment. Please be ready to present your activities, funding, and unmet needs at the next COE Dean's Advisory Board meeting in August.
 - i. Always a personal focal point for discussion and action at our Academy meetings. Assure we get tours and student demonstrations of laboratory use and effectiveness.
 - ii. Agree, the College of Engineering needs to place 'all' labs on 'need to work now list'. The new Innovation Center is a 'good start'.
 - iii. Made all the Volt Golf Tournaments with Mechanical and Aerospace Engineering students and outside company team mates.
2. For COE Board Members **Note: Not representing the MAEA (specifically) but, stay close to the President and action groups.
 - a. What do council members see for the business climate of their industry. Is it in growth mode for more engineers, a changing engineering environment calling for new "types" of engineers/engineering education, a need to replace a significant number of retiring engineers, other?
 - i. Personal Perspective on the business climate, i.e.: Engineering opportunities will get better for students who complete 'hard core' degrees, Masters and PhD's. Simply because there seems to be a decline in young person's willingness to do the hard stuff syndrome. Therefore, the jobs coming available will be great and high paying; but, possibly not as many qualified graduates from the Colleges to fill the requirements of Engineering.
 - b. What should the NMSU COE focus on for the next 5 -10 years (it can't focus on everything, so what is most important to you and your company)



Bob Myers, Aerojet Rocketdyne

- i. Recruiting new students and getting them started and keeping them is the key. Offer some incentives that other universities don't do, such as Co-ops with PSL, White Sands, +++. Focus on getting instructors/professors with good English skills.
 - ii. Retention of the professors, instructors we want to keep is extremely important: "Don't wait until they have negotiated a new job/ready to leave before we offer +'s. Realize their value early and make sure we keep the good ones."
 - iii. Work the 'language barrier problem when a Professor first shows up. It will be good for the new professor and excellent for our students.
 - iv. Make sure all professors know that many 'grade point' challenged students want to 'make it'; often times a student can make the grade point turn after a couple of semesters. With correct attitude from departments/professors we could improve retention by 10 to 20 percent.
 - v. Personal observations/view point: ladies in the industry are doing great, so keep up our gender equality focus (seems quite good to me).
- c. What 2-3 topics should we prepare to discuss with the NMSU President and Provost this fall?
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Joseph Perea, ExxonMobil Fuels

Personal Involvement:

Member of Mechanical & Aerospace Engineering Academy

Vice-Chair for Engineering Dean's Council

With every visit to NMSU I conduct student seminars for Dr. Conley's ME senior class, student organizations or clubs

Volunteer to mentor students

My NMSU activities through ExxonMobil:

Currently ExxonMobil's Recruiting Team Captain for NMSU

Lead team to support Fall and Spring Career Expos and Fall on-campus interviewing

Work with Monica to ensure NMSU students apply to ExxonMobil Latinos on Fast Track (LOFT) Program – offers mentoring with EM senior manager and \$1k Grant

Mentor NMSU students selected for Latinos on Fast Track (LOFT) Fellowship Program

Work with US Recruiting to secure Technical Scholarships to NMSU students – requires students to maintain min GPA and they have to secure a return offer of employment (internship, coop or permanent)

Highly engaged with both MAES and SHPE National programs and support NMSU chapters when needed

Co-Chaired ExxonMobil Future Leaders Academy Program – in 2013 (3) NMSU students were selected to participate

Support the NMSU Energy Club when needed

Opportunity for ExxonMobil to expand Relationship with NMSU:

As mentioned prior, we have to continue strong performance in hiring NMSU students for internships, coops and full time positions. We are on a positive trend the past two years and this is getting NMSU visibility with key program managers who support funding. Although we may not hire the sheer number of students as other Dean's Council member's companies referenced, the key is getting the right ones. We struggle because we have no NM or AZ opportunities and many students do not desire to move away from home. However the past few years, many students who have come work for us are now ExxonMobil's voice in the college and they are portraying a very positive story about our company.

To further expand the relationship, particularly from a financial perspective, we will have to meet with Truman Bell and have a proposal from NMSU detailing how NMSU can support ExxonMobil's Energy initiatives.



Randy Rothschild, Raytheon

1. A summary of activities and support to NMSU
 - a. Personal Involvement of COE Dean's Advisory Board Member (i.e., Membership in Engineering Academies, Recruiting, other)
 - i. Campus recruiting including information sessions, AMP Council Member, Guest Speaker to IEEE
 - b. Your company's activities at NMSU (including funding, scholarships, etc.)
 - i. Approximately \$200 of research funding for multiple projects. Speaking engagements, Participate in the Co-operative Education program, Sponsor of a senior design competition, Capstone project funding.
 - c. Top opportunities for your company to expand its relationship with NMSU COE
 - i. Potential research projects, desire to hire more EE's for RF and IE's for the factory
2. Academy representatives should identify what they are doing within their colleges to recapitalize their labs and laboratory equipment. This topic was an issue during the last ABET assessment. Please be ready to present your activities, funding, and unmet needs at the next COE Dean's Advisory Board meeting in August.
3. For COE Board Members
 - a. What do council members see for the business climate of their industry. Is it in growth mode for more engineers, a changing engineering environment calling for new "types" of engineers/engineering education, a need to replace a significant number of retiring engineers, other?
 - i. Combination of replacing retirees and hiring specific skills. While NMSU has seen a large amount of growth in the AE program, most of our interest is in EE's with a continual need to find good RF and often analog designers. We have a specific need for high caliber engineers who are U.S. citizens in a climate of increasingly more foreign students.
 - b. What should the NMSU COE focus on for the next 5 -10 years (it can't focus on everything, so what is most important to you and your company)
 - i. Growing the college/producing more graduates
Growing more EE's of all varieties. Particularly RF/Analog – Important
 - ii. Increasing the number of graduate students (i.e., masters and PhDs)
General interest is BS/MS with limited interest in PhD's for most work. This one is a lesser concern.
 - iii. Improving the COE national ranking
National ranking would tend to attract better students, more employers, and more research. - Important.
 - iv. Increasing research
 - v. Starting new educational programs (i.e., like aero a few years back, on-line programs, ...)
 - c. What 2-3 topics should we prepare to discuss with the NMSU President and Provost this fall?
 - i. Based on past meetings, retention of good professors is a big concern. This conversation will invariably end up in discussion compensation. Another potential related topic was the idea of partly compensating professors with some of the research dollars they bring in as an incentive to bring in work and to stay.

Bob Sachs, TEAM Technologies

1. A summary of activities and support to NMSU
 - a. Personal Involvement of COE Dean's Advisory Board Member (i.e., Membership in Engineering Academies, Recruiting, other)
 - i. I am in fairly regular contact with Dean Jacquez and Patricia. We are trying to get some momentum with the engineering department, Arrowhead Park, TEAM and Volt.
 - b. Your company's activities at NMSU (including funding, scholarships, etc.)
 - i. TEAM recruits from NMSU, although we are a very small company and only hire a few engineers per year. If we can hit on one our projects then NMSU will be the first place that we go to get engineers.
 - c. Top opportunities for your company to expand its relationship with NMSU COE
 - i. We are seeking teaming opportunities with NMSU, in fact we just submitted a joint proposal to DOE for a new concept for hydro power generation.
2. Academy representatives should identify what they are doing within their colleges to recapitalize their labs and laboratory equipment. This topic was an issue during the last ABET assessment. Please be ready to present your activities, funding, and unmet needs at the next COE Dean's Advisory Board meeting in August.
3. For COE Board Members
 - a. What do council members see for the business climate of their industry. Is it in growth mode for more engineers, a changing engineering environment calling for new "types" of engineers/engineering education, a need to replace a significant number of retiring engineers, other?
 - i. The business climate is good for technology and product invention/improvement. Our business is evolving into an innovation/incubation center and engineering is at the core. In our case EE/EET, ME/MET, CS and Industrial engineering continues to be in demand.
 - b. What should the NMSU COE focus on for the next 5 -10 years (it can't focus on everything, so what is most important to you and your company)
 - i. Growing the college/producing more graduates
 - ii. Increasing the number of graduate students (i.e., masters and PhDs). Increasing the number of especially masters students is critical to our business. Of course PhDs as well, but our biggest gap is masters level engineers.
 - iii. Improving the COE national ranking. I think that this would help the college overall. The school continues to produce excellent well rounded engineers that can go head to head with engineers from any school in the country. Having the recognition would help all the way around.
 - iv. Increasing research
 - v. Starting new educational programs (i.e., like aero a few years back, on-line programs, ...)
 - c. What 2-3 topics should we prepare to discuss with the NMSU President and Provost this fall?
 - i. I think continuing to strengthen the link between the engineering school and Arrowhead Park in new company startups. It is possible for the first fortune 500 company with NM's name on it to come out of this partnership.



Vernon Solis, ExxonMobil Fuels

1. A summary of activities and support to NMSU
 - a. Personal Involvement of COE Dean's Advisory Board Member (i.e., Membership in Engineering Academies, Recruiting, other)
 - i. Chemical Engineering Academy
 - ii. Mechanical Engineering: Society of Automotive Engineers Mini-Baja
 - b. Your company's activities at NMSU (including funding, scholarships, etc.)
 - c. Top opportunities for your company to expand its relationship with NMSU COE
2. For College Academy Members
 - a. Academy representatives should identify what they are doing within their colleges to recapitalize their labs and laboratory equipment. Please be ready to present your activities, funding, and unmet needs.
3. For College Board Members
 - a. What do council members see for the business climate of their industry? Is it in growth mode for more engineers, a changing engineering environment calling for new "types" of engineers/engineering education, a need to replace a significant number of retiring engineers, other?
 - i. Field will continue to see increase in Engineers retiring and a large "gap" of intuitive knowledge lost. Need to build core everyday skills with new Engineers such as public speaking, presentation skills taking technical topic and presenting to non-technical audience, business fundamentals. My observations show we have great Engineers that can work Excel and Access better than a Senior Engineer, but they lack the basic people skills that are critical to being a great Engineer.
 - b. What should the NMSU COE focus on for the next 5 -10 years (what is most important to you and your company)
 - i. Growing the college/producing more graduates
 - ii. Focus on building core Engineering discipline, we continue to focus on minor impact skills i.e. aerospace, nuclear engineering / power, etc (unless we can provide some great job placement statistics we should focus on the core) Look at this from a corporate "Rate of Capital Employed" where is our best investments....focus there.
 - iii. Increasing the number of graduate students (i.e., masters and PhDs)
 - iv. Improving the COE national ranking.
 - v. What is NMSU COE long-term plan i.e. 10 yrs and short-term plan <3yrs? Need to start communicating this to the students and professors, getting buy-in for the long-term will be important, but showing small short-term wins will drive investment by the broader alumni.
 - vi. Who are we trying to benchmark against? UNM, UTEP, ASU?
 - vii. Have we reached out to the broader Engineering Alumni on support either monetary or intellectually?
 - viii. Increasing research



Vernon Solis, ExxonMobil Fuels

- ix. Starting new educational programs (i.e., like aero a few years back, on-line programs, ...)
- x. Online programs are growing and these should be seriously evaluated globally beyond the WERC consortium or NMSU will be playing catch-up. My Executive MBA is all on-line. I did evaluate NMSU, but they did not have an online program at that time. Could leverage actual industry professionals to teach, this is done for my MBA classes. Professionals teaching yields realistic applications and experiences. Why not bring retired alumni to teach a course for a semester or two?
- c. What 2-3 topics should we prepare to discuss with the NMSU President and Provost this fall?
 - i. NMSU needs to determine what the long-term true educational value is. Yes, athletics is receiving large amounts of funding, but Engineering is not and this is impacting the educational perception new students see when evaluating a college i.e. old lab, broken equipment.
 - ii. Lastly: We need to fish where the fish are...who do we desire to recruit and benchmark against. This is a long-term journey and we need to plan the course and maintain the heading with minor deviations as needed.

