



College of Engineering

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Greetings Members of the Academy of Civil, Agricultural, and Geological Engineering (ACAGE). It is my pleasure to write you regarding accomplishments and developments in the NMSU Department of Civil Engineering for 2016. Currently, there are roughly 240 students in our ABET-accredited undergraduate program and approximately 70 students (40 MS and 30 Ph.D.) in our graduate program. During the 2015-2016 academic year, we awarded a total of 60 degrees including 45 bachelors, 12 masters, and 3 doctorates. Further highlights of the department including student organizations and scholarships, faculty developments and research activities, endowed professorships, and the ACAGE banquet and homecoming events are provided below.

STUDENT ORGANIZATIONS AND SCHOLARSHIPS

The NMSU Student Chapter of ASCE participated in the 45th Annual Rocky Mountain Regional Conference hosted by the University of Colorado, Denver and the Metropolitan State University of Denver on March 31 – April 2, 2016. Thirty-three NMSU students made the trip and competed with 12 other schools in all events, including mystery design, steel bridge, concrete canoe, technical paper, and non-technical paper. NMSU placed 1st in the concrete canoe races and 2nd overall in the concrete canoe competition. The chapter is now in the final preparation stages for travel to the University of Utah, in Salt Lake City, Utah, for the 46th Annual Rocky Mountain Regional Conference to be held on April 6 – 8, 2017. This year's concrete canoe, "Zia," is almost complete and incorporates new design and concrete mix. The fabrication of the steel bridge is also ahead of schedule. In addition to the concrete canoe and steel bridge competition, NMSU students will participate in the mystery design, technical paper, and non-technical paper competitions. It is projected that 37 students will travel to this year's competition in Salt Lake City. In addition to the technical aspects of preparation for the conference, the students are actively fundraising to raise the thousands of dollars necessary for construction of the canoe and steel bridge, as well as travel to the conference. **Please consider donating to the ASCE – NMSU Student Chapter to support their competitions at the regional conference.**

Chi Epsilon (XE), the civil engineering honor society, initiated several new members in the last two semesters. Additionally, in Fall 2016, NMSU and CE alumnus Mr. Eddie Livingston was

elevated to a Chapter Honor Member. To help encourage new members, Dr. Conrad G. Keyes, Jr. started the Chi Epsilon Current Use Scholarship to help to pay the initiate dues required to join Chi Epsilon. During the 2017 – 2018 school year, the students will travel to the Southwest District Regional Conference in Arlington, TX and the National Conclave in Portland, OR.

During the 2015-2016 academic year, approximately \$70k in undergraduate scholarships were awarded to 60 students and an additional \$16k was awarded to 10 graduate students including 4 PhD and 6 MS. In addition, the ACAGE 25th Anniversary Endowed Scholarship reached the \$25,000 needed for endowment. The scholarship is for one or more undergraduate or graduate students majoring in Civil Engineering with preference given to students in a leadership position. The first recipient will be announced during the 2017 ACAGE banquet and the Civil Engineering Department thanks you for making the endowed scholarship a reality.

Outside the department, our students also received many other awards at the college, university, and national levels. One example is the Center for Transportation Workforce Development's Universities and Grants Programs awarded NMSU a \$34,000 grant from the 2016 Dwight David Eisenhower Hispanic Serving Institutions Fellowship Program. The objective of the Dwight David Eisenhower Transportation Fellowship Program is to attract qualified students to the field of transportation and research, and advance transportation workforce development. Fellowships of varying amounts between \$2,000 and \$10,000 were awarded to 1 PhD student and 5 MS students, and included an allowance to attend the Transportation Research Board Annual Meeting in January 2017 in Washington, DC.

DEPARTMENT FACULTY AND RESEARCH ACCOMPLISHMENTS

At this time, the CE department has 15 tenured/tenure-track faculty members and is one of the most research active departments at NMSU with annual expenditures of over \$3 million. The faculty are listed below based on research area and the year they started at NMSU:

- Environmental – Nirmala Khandan (89'), Lambis Papelis (10'), Pei Xu (13'), Yanyan Zhang (16')
- Geotechnical – Paola Bandini (02'), Douglas Cortes (11')
- Structures – Ehsan Dehghan-Niri (17'), David Jáuregui (99'), Craig Newton (01'), Tathagata Ray (14'), Brad Weldon (10')
- Transportation – Peter Martin (12')
- Water Resources – Salim Bawazir (00'), Phil King (90'), Zohrab Samani (87')

Dr. Yanyan Zhang joined the department in Fall 2016 as an Assistant Professor in the area of Environmental Engineering. Dr. Zhang received her PhD in Civil & Environmental Engineering in July 2012 from the University of Missouri – Columbia and she holds a P.Eng. license in

Canada. Before joining the department, Dr. Zhang was a Postdoctoral Fellow at the University of Alberta – Edmonton from January 2013. Her research interests are biotechnologies for water and wastewater treatment and reuse including pathogen detection and inactivation; bacterial adhesion, biofilm and disinfection resistance; fate and transport of micro-pollutants in natural and engineered systems; and integrated biochemical and physicochemical treatment systems.

Dr. Ehsan Dahghan Niri joined the department in Spring 2017 as an Assistant Professor in the area of Structural Engineering. Dr. Niri received his PhD in May 2014 from the Civil Structural & Environmental Engineering Department at the University of Buffalo. Dr. Niri previously worked as a Nondestructive Testing Scientist at General Electric – New York from November 2014 through December 2016. His research interests are structural health monitoring and nondestructive testing/evaluation; vibration based energy harvesting; vibration control of flexible structures; and in-process nondestructive testing of advanced manufacturing.

The NMSU Department of Civil Engineering is part of a newly established U.S. Department of Transportation Regional University Transportation Center (UTC) located in Region 6. NMSU will join a multi-university team led by Louisiana State University (LSU). Dr. Craig Newton is the NMSU PI and the primary focus of the Regional UTC is on “improving the durability and extending the life of transportation infrastructure.” Partner institutions include Arkansas State University, Baton Rouge Community College, Navajo Technical University, NMSU, Oklahoma State University, Prairie View A&M University, Texas A&M University, University of New Mexico, University of Texas at Arlington and University of Texas at San Antonio.

The Department of Civil Engineering was featured in NMSU’s Salon Discovery (Enchantment of the Mind) event on September 9, 2016 at NMSU’s Atkinson Recital Hall. The event activities included an outreach / recruitment dinner for high school students; unveiling of a showcase video on “NMSU Civil Engineering: En Route to a Better Infrastructure” arranged by Mr. Mitch Fowler from the NMSU Creative Media Institute; interviews of Civil Engineering faculty members Dr. Paola Bandini and Dr. Phil King by KRWG’s Fred Martino; a performance by NMSU’s own Latin Grammy Award-winning La Catrina Quartet; and an after-party on the NMSU Horseshoe. Over 40 high school students attended the event from Arrowhead Park, Centennial, Las Cruces, Los Lunas, and Oñate High School. Several alumni from the Civil Engineering Department participated in the outreach / recruitment efforts including Ms. Debra Hicks (President & CEO, Pettigrew and Associates); Mr. Eddie Martinez (Principal & CEO, Zia Engineering & Environmental); Ms. Gabriela Contreras (General Manager, NMDOT South Region Design); and Mr. Jerry Paz (Executive Vice President, Molzen-Corbin). Also assisting with the outreach / recruitment effort were Civil Engineering students from ASCE, Chi Epsilon, and Aggies Without Limits along with NMSU’s Admissions, Financial Aid, and Foundation offices. The event was a great success!!!

ENDOWED PROFESSORSHIPS

Dr. Paola Bandini was selected as the Wells-Hatch Family Endowed Professor of Civil Engineering. The endowed professorship was made possible through the generosity of a gift from Mr. William C. Wells, Jr., an alum from the NMSU College of Engineering and also the son of Mr. Cramar Wells, a 1934 graduate from the Department of Civil Engineering and Mrs. Ruby Jane (Hatch) Wells, a 1939 graduate in Home Economics. The endowed professorship was established in recognition of the excellent education received at NMSU and its continued commitment to maintaining a tradition of academic excellence. Dr. Nirmala Khandan was renewed as the Ed and Harold Foreman Endowed Chair in Civil Engineering. The endowed chair was made possible through the generosity of a gift from Mr. Edgar (Ed) F. Foreman and Harold "Chub" Foreman. The Foreman brothers both earned Bachelor of Science degrees in Civil Engineering from NMSU, Ed in 1955 and Harold in 1961. The endowed chair recognizes a faculty member in the Department of Civil Engineering at NMSU who exemplifies excellence in teaching, research, and service.

The department has two other professorships, the John Clark Distinguished Professorship and the Harold Foreman Distinguished Professorship in Civil Engineering, which are currently vacant but will soon be announced to the faculty for competition to be appointed later this year. In honor of his late brother, John, Dr. Joseph Minor has committed \$125,000 to establish a new "Dr. John Minor P.E. Memorial Endowed Professorship" in the NMSU Department of Civil Engineering. The proposed professorship would support a doctorate-level faculty member to work in finding innovative solutions to teaching, research and public service issues involving transportation infrastructure, particularly in the area of surface transportation (roads and bridges). Dr. John Minor joined the Faculty of Civil Engineering at NMSU in 1970 and retired with the rank of Professor Emeritus in 1994. Please consider making a donation towards the remaining \$125,000 needed to establish the professorship and ensure Dr. Minor's legacy at NMSU.

ACAGE BANQUET AND HOMECOMING EVENTS

The Department of Civil Engineering hosted current and new members of the Academy of Civil, Agricultural and Geological Engineering (CAGE) during Homecoming 2016. The ABET Industry Advisory Group (IAG) met the afternoon of Thursday, September 29th to discuss curriculum changes, student outcomes, and FE exam performance. In the evening, the ACAGE Banquet was held at the Las Cruces Convention Center and included the following activities: Civil Engineering Department and College of Engineering Report (presented by Dr. David Jáuregui and Dean Reddi); ACAGE 2016 Scholarships (awarded to Mr. Arno Cheng for undergraduate achievement and Mr. Jose Pasillas for graduate achievement); Introduction of 2016 ACAGE Initiates (presented by Mr. Timothy Cynova, ACAGE President); and Recognition of 1991 Initiates (presented by Dr. Conrad Keyes). A sincere thanks goes out to Ms. Margaret Cotsonis, Ms. Elvia Cisneros, Ms. Jacey Payne and Dr. Conrad Keyes for their assistance with the banquet arrangements.

On Friday, September 30th, the “State of the Department” was given in Hernandez Hall to the ACAGE membership. Updates were presented on the projects and accomplishments of the National Science Foundation (NSF) Centers for ReNUWIt (given by Dr. Nirmala Khandan) and CBBG (given by Dr. Douglas Cortes and Dr. Paola Bandini). Other faculty members also described their research projects in the areas of environmental, geotechnical, structural, transportation, and water resources. In addition, the ASCE and Chi Epsilon student organizations gave an update on current activities. Breakout sessions were then conducted between faculty and students from the Civil Engineering Department and the ACAGE membership to discuss industry needs for entry-level engineers. The day was finished with the John Clark Lecture (given by Mr. Ted Asbury, BSCE 1970 from NMSU) and the 2016 ACAGE Initiation Ceremony.

NMSU will celebrate Homecoming 2017 starting October 23rd and ending at the Homecoming game against the Arkansas State Red Wolves on October 28th. The 2017 ACAGE banquet, initiation, and membership meeting are currently in the planning stages and will be held on Thursday, October 26th and possibly Friday, October 27th. Appropriate ACAGE annual dues or donations are needed to be a 2017 Active Member in order to vote for the potential 2017 ACAGE nominees that are listed on <http://acage.net>.

The highlights of the Civil Engineering Department given above are but a glimpse of the extraordinary work of our faculty and students. Another relatively recent happening is the hiring of Ms. Margaret Cotsonis as an administrative assistant for the department. Margaret has taken over the ACAGE responsibilities previously held by Ms. Lisa Varin who has taken a position as a program coordinator in the College of Agricultural, Consumer and Environmental Sciences. Please join me in once again welcoming Margaret to NMSU and also thanking Lisa for her service to ACAGE and the department. Moving forward, I respectfully ask that you continue your contributions to our department and also that you serve as ambassadors in advocating our program to potential Civil Engineering students. Thank you for your support of the Civil Engineering Department and we look forward to seeing you at the NMSU Homecoming 2017.



David V. Jáuregui, PhD, PE
Department Head of Civil Engineering



Edward Martinez, PE
CAGE Academy President