

NM College of
STATE Engineering

GODDARD
B R O A D C A S T

Fall 2017



Designed by Trost and Trost, the university architects, Goddard Hall was one of the most expensive buildings on campus and also deemed to be one of the most beautiful.

RALPH WILLIS GODDARD: WIRELESS COMMUNICATION PIONEER, ENGINEERING LEADER

This inaugural quarterly publication of “Goddard Broadcast” pays homage to wireless communication pioneer Ralph Willis Goddard.

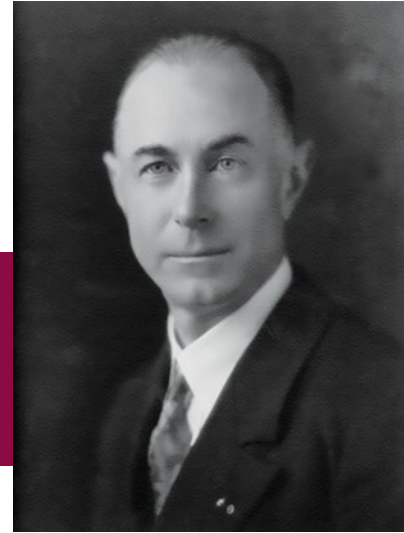
Goddard, who helped found the engineering school at New Mexico College of Agriculture and Mechanic Arts, received an amateur broadcast license in late 1919. He assembled a small radio station and with his students erected a transmitting tower. That same year, Goddard broadcast the first signals from his hand-built radio station from the small shack—the first-ever in New Mexico.

With the Mexican Revolution causing concern to the residents of southern New Mexico in 1915-16, Goddard was enlisted to set up a military communication system between the border patrols. Goddard continued to develop the concept of wireless communication and constructed a 133-foot antenna with a 50-watt continuous-wave

transmitter. In 1922, now equipped with a one-kilowatt transmitter, regular informational broadcasts were made by the college radio station KOB. Goddard continued to develop KOB growing to a 10,000 watt transmitter. On Oct. 14, 1922, KOB broadcast the first ever play-by-play description of a football game between the Aggies and the Albuquerque Indians.

Goddard was named dean of engineering in 1920 and served until his untimely death in 1929. On Dec. 31, preparing for the New Year’s Eve broadcast, he was accidentally electrocuted and likely killed instantly.

In March 1934, the engineering building, erected in 1913, was named Goddard Hall in his honor. The elegant building now serves as home to the college administration and it is still one of the most beloved landmarks on campus.



Ralph Willis Goddard



Charter members of the State College Radio Club: (back row, left to right) Walker, Buell, Bently, Horr, Rutlege; (front row, left to right) Percy, Tudor, Eddleman, Keeler, Goddard

NMSU LAUNCHES

NEW GEOMATICS PROGRAM SUPPORTED BY NATIONAL EDUCATION AWARD

The New Mexico State University Surveying Engineering program recently received a \$10,000 National Council of Examiners for Engineering and Surveying Education Award. The award will provide scholarships and state-of-the-art instrumentation for the newly revamped surveying engineering program, which is now offered as geomatics.

The NCEES annual award “recognizes surveying programs that best reflect the organization’s mission to advance licensure for surveyors in order to safeguard the health, safety and welfare of the public.”

“The geomatics program was developed with substantial direction and support from industry, state and national professional societies,” said Tom Jenkins, engineering technology department head.

The geomatics four-year bachelor’s degree will feature studies of new technologies and flexible ways for degree completion. NMSU is the only institution in the state to



offer this degree. The program is accredited by the Engineering Accreditation Commission of ABET.

“Our surveying engineering graduates had 100 percent employment and earned very competitive salaries,” said Jenkins.

Students may begin the program while attending community college or through online coursework and complete the final two years on campus. Updated coursework will include instruction on emerging technologies in geomatics measurement and analysis; the legal principles of boundary location; the laws related to boundaries and land use; and applicable mathematical and computational theories and principles.

Read more at
enr.nmsu.edu/geomatics/

NMSU ENGINEERING TO BE FEATURED IN “INFORMED” TELEVISION SERIES

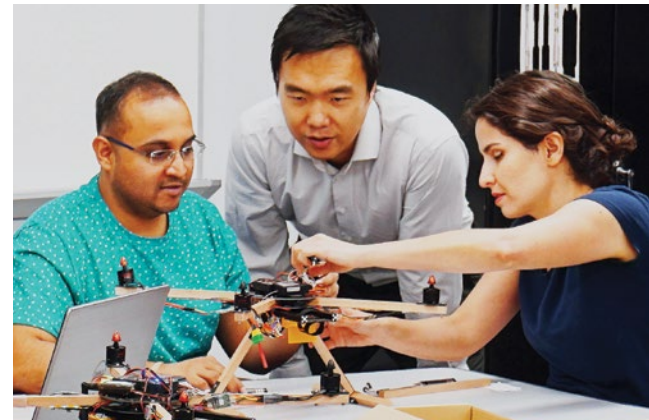
The College of Engineering was selected to be featured on “Informed” — an award-winning program that highlights stories and innovative concepts. The show focuses on industry professionals and groundbreaking organizations involved in business, medicine, education and environmental issues.

Hosted by Rob Lowe, the series is distributed to the Public Broadcasting Service and American Public Broadcasting.

The “Informed” series production team spent a full day on July 14 at NMSU interviewing and filming in the College of Engineering. Two videos about the college are expected to be finalized and ready for distribution sometime in October.

Featured on the videos will be interviews with College of Engineering Dean Lakshmi Reddi, chemical engineering student Kendalle Finchum and longtime college supporter and electrical engineering alum Eloy Torrez. Numerous student projects will also be featured in the videos.

Read more at
enr.nmsu.edu/informed/



Students are filmed while working on a drone with Professor Liang Sun.



ENGINEERING LEARNING COMMUNITIES GAIN SUPPORT TO ASSIST STUDENTS

This past spring, the College of Engineering launched the first phase of its Engineering Learning Communities initiative with the offering of tutoring to all engineering students. The effort was successful, with a steady stream of students seeking tutoring assistance. Now, with the generous support of donors, Engineering Learning Communities will formally begin the fall semester with additional student services.

“The mission of Learning Communities is to provide NMSU engineering students the opportunity to develop the skills they need to succeed in school and at work, said Lakshmi N. Reddi, College

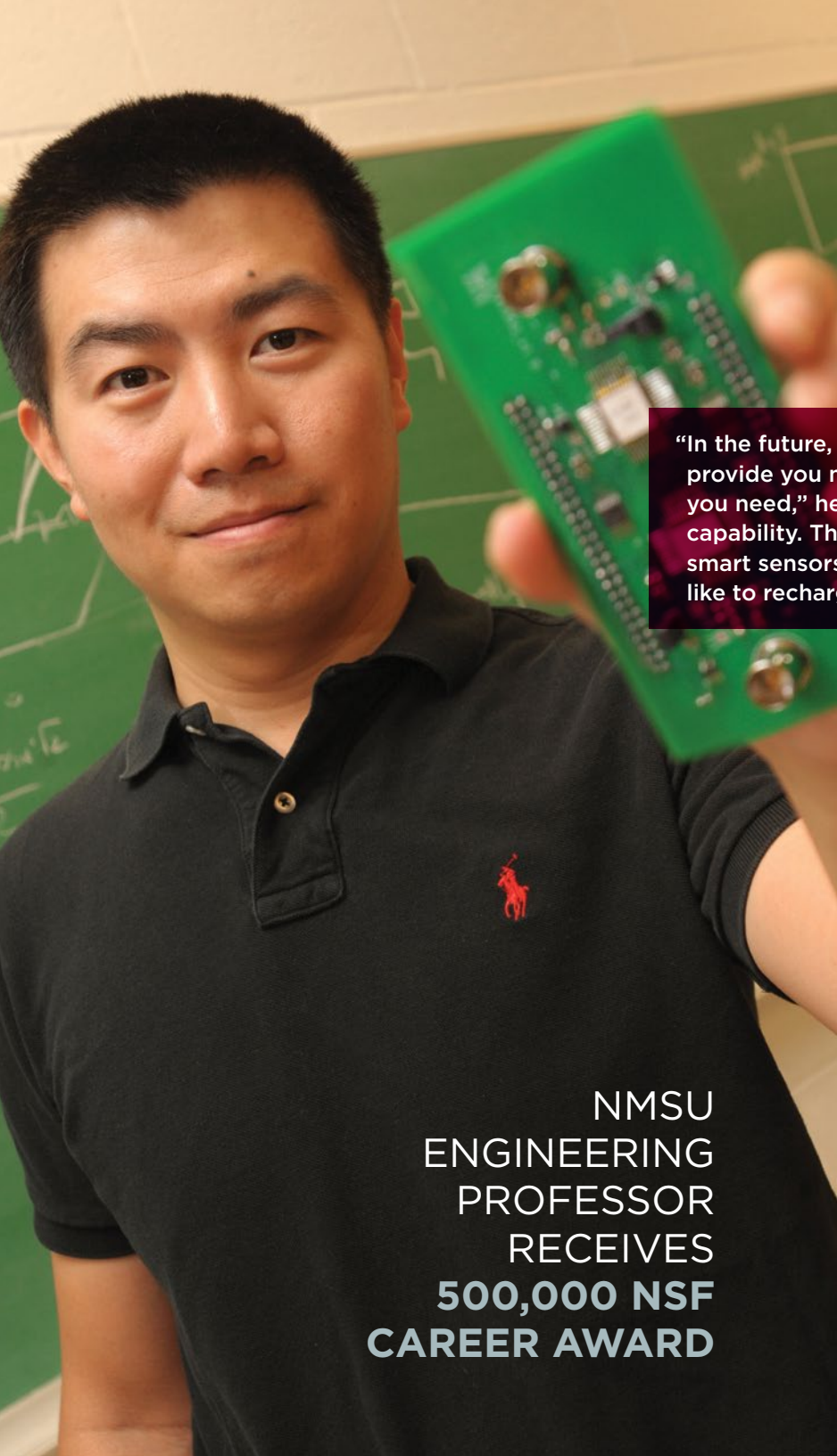
of Engineering dean. “Employers not only require top-notch skills in math and science but they want strong written and oral communicators, creative thinkers, innovators and entrepreneurs.”

Housed in a 7,921-square-foot suite of offices centrally located in the Foreman Engineering Complex, the space will be reconfigured to house offices for student groups and peer-mentoring, along with mentoring by faculty members, industry representatives and alumni.

Learning Communities resources will be integrated with Engineering 100. Since fall 2014, freshmen majoring in engineering

have taken Engineering 100, a centralized class that lets them begin working together on engineering principles right away, develop a community of classmates and get mentoring from upperclassmen. Learning Communities will take this concept and apply it throughout the curriculum, providing assistance with sophomore cornerstone and senior capstone courses.

Read more at
engr.nmsu.edu/learning/



**NMSU
ENGINEERING
PROFESSOR
RECEIVES
500,000 NSF
CAREER AWARD**

Assistant professor in the Klipsch School of Electrical and Computer Engineering Wei Tang has received a National Science Foundation Faculty Early Career award, and a five-year, \$500,000 grant.

Tang's proposal covers the topic of integrated research and education about low-power signal processing circuits the next generation of smart sensors.

“In the future, people will have lots of devices that can provide you not only the information but also the knowledge you need,” he said. **“This requires the device to have learning capability. The bottleneck of achieving portable and wearable smart sensors is the power consumption because no one would like to recharge the battery of a device every few hours.**

“In this project, we are going to develop devices that can process information with minimum power,” he said. “This can be achieved by novel circuit architectures and considering the input signal properties. The project will benefit the next generation medical devices, automobile sensors or environmental and structural assessment.”

“The proposed ideas, preliminary results and research methods mentioned in the proposal come from various collaborations at NMSU. Without their help, I would not have received this award. This award really belongs to our research community.”

Tang joined the NMSU faculty in 2012 after earning his Ph.D. and master's degree in electrical engineering from Yale in 2012 and 2009, respectively. He earned his bachelor's degree in microelectronics from Peking University in 2006.

“I feel responsible as a researcher and educator working in this land-grant university,” he said.

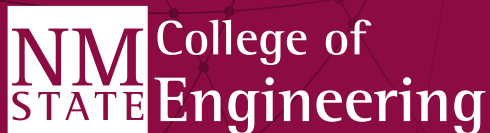
Read more at enr.nmsu.edu/tang/

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The logo for the College of Engineering at New Mexico State University. It features a white square containing the letters 'NM' in a large, bold, serif font, with 'STATE' in a smaller, bold, serif font below it. To the right of the square, the words 'College of' are stacked above the word 'Engineering' in a white, sans-serif font. The background of the entire page is a dark maroon color with a subtle pattern of white lines and dots forming a network or web structure.

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