



From left to right, Staff Sgt. Parnell, Elizabeth Gardner, Capt. Kauffman, Col. Hogan, Capt. Rossi, and Tech. Sgt. Prichard are all part of the new AFROTC program at UNLV.

Air Force ROTC Program in the College of Engineering

Freshmen aren't the only thing that are new at UNLV this fall. The College of Engineering has a new program, and it's a one-of-a-kind in Nevada.

This semester marks the official formation of a UNLV Air Force Reserve Officer Training Corps (ROTC) unit known as Detachment 004. The Air Force ROTC is an educational program designed to provide male and female university students with the opportunity to become an Air Force officer while completing an academic degree.

Detachment 004, the newest AFROTC Detachment in the United States and the first AFROTC Detachment in Nevada, is being led by UNLV professor Col. Robert M. Hogan.

Hogan, who serves as a professor of Aerospace Studies, chair of the College of Engineering's Aerospace Department, and now commander of the UNLV AFROTC Detachment 004, attributes the new program to the helpful efforts of Sen. Harry Reid, UNLV President Carol C. Harter, Dean Eric Sandgren and Professor Bill Culbreth from the college, and the senior leadership at Nellis Air Force Base.

"Our goal was to start the semester off with 50 students enrolled in the Air Force ROTC program," said Hogan. "We're fortunate to have 52 students enrolled for fall semester — four juniors, 17 sophomores, and 31 freshmen. Within the next couple of years we plan to have more than 200 cadets enrolled in UNLV's Air Force ROTC program."

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What does AFROTC mean to me?

"The current cadets are the inaugural class graduates from this brand new detachment; what an amazing opportunity. It will be exciting to watch the program grow into a self-sufficient AFROTC detachment. One day we will look back and know that we were a part of history here at UNLV."

C/Maj. Claypool
Cadet Squadron Commander
AFROTC Det. 004

"I joined AFROTC for the same reason any other cadet did, to become an Air Force Officer."

Cadet Villa
AFROTC Det. 004

"I've always had a dream to serve in the military, graduate with a college degree, and be the first in the family to do so; this is my opportunity."

Cadet Estalilla
GMC Advisor
AFROTC Det. 004

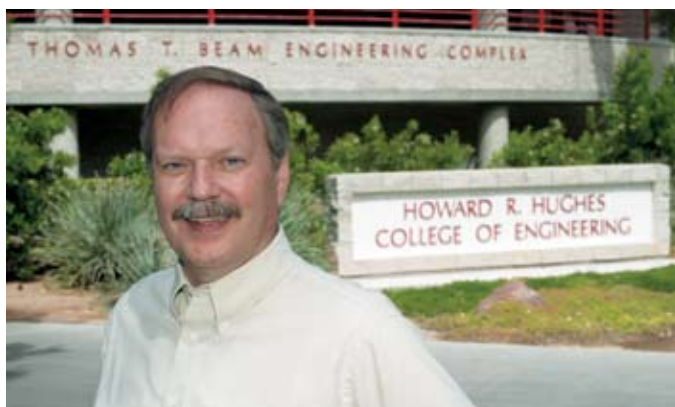
"The ROTC program offers me leadership opportunities, teaches me the value of integrity, and improves my self-discipline."

Cadet Torres
AFROTC Det. 004

"The Air Force is a way of life for me. They teach us core values like integrity, service before self, and to excel in all we do."

Cadet Wilcox
AFROTC Det. 004

Message from the Dean



College of Engineering Dean Eric Sandgren

Moving from Good to Great

I would like to take this opportunity to try and place the current status of engineering and computer science education in the United States in a historical perspective, and then to use this perspective to demonstrate the positive direction in which the Howard R. Hughes College of Engineering is moving. One of the few advantages of growing older, or as I like to say “more experienced,” is the ability to look at current trends and events as part of a process that has been going on for a significant length of time.

There is no doubt that the social, industrial, and educational landscape of our great nation has been dramatically altered over the last few decades. In many ways, the future we have inherited is not the one which most individuals would have envisioned not that many years ago. Great giants of industry such as IBM have had to reinvent themselves in order to stay in business. General Motors has been surpassed by Wal-Mart as the nation’s largest employer. Products that once defined complete market segments have long since faded to obsolescence. Markets such as commercial aviation, once completely dominated by the United States, are now international in scope.

Without the space race or the Cold War as a driver for technology development, the number of students entering engineering and science in the United States is well below that of most of our international competitors. Additionally, many of the manufacturing jobs are following entry-level technical jobs out of the country. Perhaps we are victims of our own success, as our quality of life continues to rise. On the other hand, our inability to motivate and train students for employment in technical fields has placed this country at considerable risk. It is time to reinvent engineering education — and what better place to start the process than in a city like Las Vegas, which reinvents itself on a continual basis.

I see a great parallel between the changes in American industry and the changes which are beginning to occur in our higher educational system. Both segments are faced with tremendous challenges. Industry has taken the lead as it is driven by a profit motivation and tends to have a structure where directives from the top executives are quickly implemented within the organization. But academic institutions typically react to change much the same way a supertanker reacts to a steering change. The wheel is turned and some long length of time later, the ship begins to react.

The College of Engineering at UNLV has developed a strategic plan that charts the course for the future growth of our college. The relative newness of our program as well as that of our university enables us to make changes in our program in much less time than that required for more established programs. The challenge is to move an inch forward toward our goals each and every day, and to become more relevant and connected to the community we serve. We face the challenges of attracting new students to our program, increasing faculty and staff size, and offering new and innovative programs which will support the rapid growth of the Southern Nevada region. The students entering our engineering and computer science programs, and the job opportunities upon graduation, are much different than those of 20 years ago. Our approach to success cannot rest on what has worked in the past.

Over this past year, the college has hired three new faculty members, two research faculty members, and four new professional staff. These professionals include our first faculty member in the area of entertainment engineering, a licensed patent attorney, a communications coordinator, and a machinist. Each of these individuals will help move the college forward in an area critical to our success. Three new academic programs — informatics, aerospace studies and entertainment engineering — are in the final stages of development. These programs, along with the strengthening of the construction management program, will provide a focus on local needs and opportunities, as well as generate some creative energy for the college.

We have established five new research centers, including a federally sponsored University Transportation Center. Research funding continues to grow, particularly in the critically important energy field, which includes a host of initiatives in renewable energy. Student enrollment is up by double digit margins in the engineering programs and graduate enrollment at the Ph.D. level is up significantly as well. Our minority and female student populations are also growing. Once again, this growth runs counter to the national trend. Much of these increases come as a result of our emphasis on recruitment and retention, as well as the initiation of new high school targeted programs such as the FIRST Robotics Competition. New equipment, such as our

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Professor Brings "Real World" to New Program

When art and engineering are combined, what do you get? According to the College of Engineering's newest professor, Dan Cook, you get new, out of the ordinary, thrill-filled experiences.

Turning ideas into action is what UNLV's entertainment engineering program is all about. And when it comes to being creative and thinking out of the box, Professor Cook is the perfect poster child. He embodies a lifelong love of right- and left-brained learning, having taught interdisciplinary classes in sculpture and mechanical engineering for the past four years before coming to UNLV.

Cook is a former colleague of UNLV's dean of the College of Engineering, Eric Sandgren. They worked together at Virginia Commonwealth University. Now Sandgren and Cook both call Las Vegas home and are committed to making UNLV's entertainment engineering program excel in its realm as one of the country's most impressive, most successful schools.

"One of the best things going for UNLV's entertainment engineering program is the support it has received for its development," Cook explains. "An interdisciplinary program such as this could not work without enthusiastic people behind it at all levels within the university. Luckily we have faculty like Bob Boehm in engineering, and Joe Aldridge and Brackley Frayer in the theater department, who have been proponents of this program for years. Additionally, both Sandgren and Jeff Koep, dean of Fine Arts, are solidly behind it. And finally, President Harter wants this program to succeed. So, I guess I've got my work cut out for me," Cook concludes.

Cook and his colleagues are working toward the common goal of providing graduates with the ability and credibility to offer their expertise within the local industry as well as nationally and internationally. Upon graduation, students will be able to contribute in business arenas such as theatrical show production, theme parks, and digital gaming.

If you consider the many scenic effects called for in the dozens of productions on the Las Vegas Strip, you're considering the world of entertainment engineering, which makes this program's UNLV home a perfect fit. "We're not just talking about smoke and mirrors, but the real world application of how you make the fountains at Bellagio work, or the stage at 'O' disappear, revealing a pool of water below, then reappear," says Cook.

Cook's knowledge has taught him to take artistic concepts and use them to help engineers expand their creative horizons. He believes in the process, not just the end result.

"Teaching engineering students how to conceptualize, create, troubleshoot, and complete a project is all part of the process," Cook explains. "Textbook knowledge is important, and then reality teaches us to apply that knowledge to actually make things work. Good engineers are problem solvers."

And that's just what the UNLV entertainment engineering program aims to do — teach students how to take artistic concepts and turn them into real, functioning, entertaining applications.

Cook's experience, in addition to working at Virginia Commonwealth University, includes working for Reynolds Metals and Apple before coming to UNLV this fall.

The deans of the Colleges of Fine Arts and Engineering support the integrated entertainment engineering degree curriculum, which is expected to accept its first class of freshmen in fall 2006.



Dan Cook is the newest professor in the College of Engineering.

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Invent the Future: Science, Engineering and Technology Building

History shows that many of the greatest advancements of our time began in university laboratories. Now, more than ever, society is relying on research, discovery, and invention to guide us through periods of social and economic transition. In response to this growing responsibility, university faculty, staff, and students are seeking new and improved ways to share information and collaborate.

Slated for completion in 2007, the new Science, Engineering and Technology (SET) Building at UNLV will allow the university to accommodate current and future student growth while providing faculty and staff with the space needed for research and teaching in natural sciences, engineering, and other technology areas requiring multidisciplinary research.

“UNLV’s expanding program of scientific research demands a unique home base, designed for learning, discovery, and community engagement,” says UNLV President Carol C. Harter. “With state-of-the-art, customizable laboratories and classrooms as well as a public auditorium and exhibition space, the Science, Engineering and Technology Building blends research and scholarship in the active exploration of microscopic worlds and distant universes.”

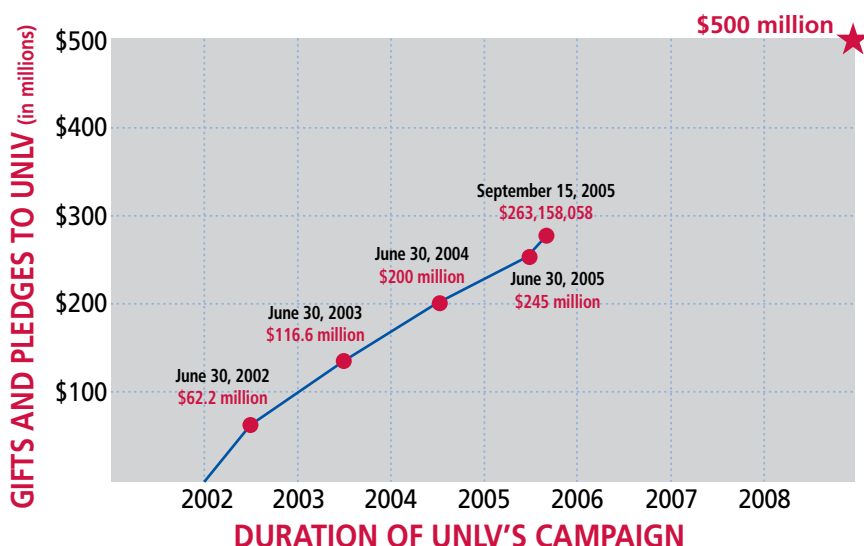
The building will offer approximately 190,000 square feet of laboratories and teaching space, “smart” conference rooms, and integrated research space that can be easily converted from one use to another. And it will allow UNLV to recruit Nevada’s best students and continue attracting the nation’s top faculty by offering them the opportunities, resources, and research environment required to be successful in their fields.

“We are currently bursting at the seams in the College of Engineering,” said Dean Eric Sandgren. “We have a desperate need for high-quality space so we can expand our rapidly growing research enterprise. The future is embodied by interdisciplinary research and the new SET building will facilitate our interaction with virtually every other college on campus. As we move much of our research activity out of our current buildings, we will gain space for upgrading our undergraduate teaching and research laboratories as well. This building will allow UNLV to become a future national player equal to the best U. S. research institutions.”

College of Engineering

Campaign Funding Priorities

- **Science, Engineering and Technology (SET) Building**
- Entertainment engineering—Black Box Theatre
- Technology program
- Center for Entrepreneurship
- Renewable energy and research



Invent the Future is UNLV’s first comprehensive effort to secure the promises of tomorrow through a \$500 million fundraising initiative. With your help, private funding for students, faculty, research, facilities, and programs will map a course for Las Vegas’ next decade.



Department Updates

Civil and Environmental Engineering

A Hole-in-One for Laboratory Equipment

The premiere golf tournament to benefit the Department of Civil and Environmental Engineering was Dec. 2. Funds raised from the event will be used to purchase laboratory equipment for the department. The tournament was held at the Black Mountain Golf & Country Club.

A special thank you to Dennis Waibel for his leadership, and to the entire Carter & Burgess family and employees for their dedication planning the tournament.

School of Computer Science

Identity Theft Prevention

UNLV has filed a provisional patent on behalf of Hal Berghel, co-director of the Identity Theft and Financial Fraud Research and Operations Center. The patent is for an automated credit card authentication and fraud detection device called CardSleuth. Co-inventors are Michael Sthultz, associate director of the center, and Dennis Cobb, co-director and deputy chief of police with the Las Vegas Metropolitan Police Department.

ALDEC Plays a Significant Role in ECE Programs

Aldec, Inc., a local computer engineering company that provides mixed-language simulation and advanced design tools specifically for electrical engineers, has been working with Professor Henry Selvaraj since 1998 and contributed to the establishment of the Aldec Digital Design Laboratory the following year. Since then, Aldec has continued its support in numerous ways. Most recently, Aldec provided a grant of \$45,000 to Professor Selvaraj to procure electronic design automation software. The software is used for training undergraduate students in designing state-of-the-art digital circuits based on programmable logic devices.

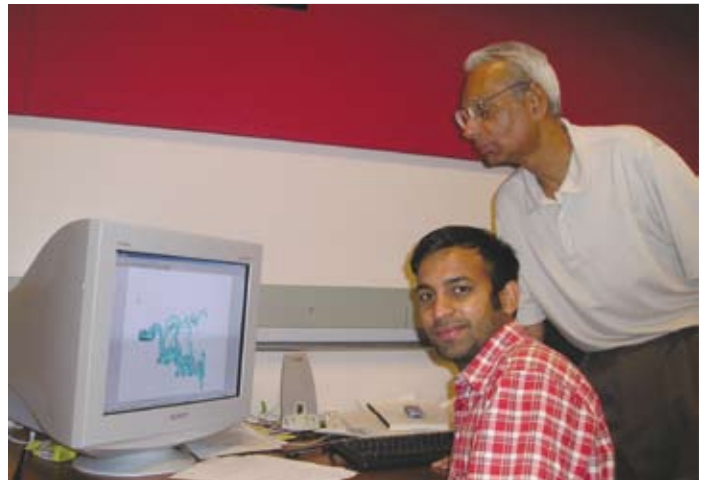


Students in Professor Henry Selvaraj's class access the electronic design automation software funded by a gift from Aldec, Inc.

Programmable logic devices program hardware to complete a specific task.

The software is also used by UNLV graduate students to complete their research, as they apply advanced design techniques in senior projects which have earned widespread appreciation from leaders in the local and engineering industry communities. Specifically, Aldec's support

Department of Electrical and Computer Engineering



Professor Sahjendra Singh works with graduate student Mukund Narasimhan.

Control System to Help Search and Rescue Teams

Denizens of the aquatic world have a splendid ability to perform swift, complex, and intricate maneuvers using oscillating fins. Electrical and Computer Engineering graduate students Aditya Simha and Mukund Narasimhan, under the guidance of Professor Sahjendra Singh, are developing biologically-inspired control of bio-robotic autonomous undersea vehicles (BAUVs) to help detect mines and to enhance search and rescue operations. An adaptive control system has been developed for maneuvering of BAUVs in the dive-plane by the upward curving of dorsal fins. The Office of Naval Research is sponsoring the project and UNLV is completing the research in conjunction with George Washington University.

Department Updates

Department of Electrical and Computer Engineering, cont.



Students Aaron Ponzio, Tan Wu, and Zach Devlin test the system with Professor Emma Regentova.

Applied Research with IGT during summer '05

Professors Emma Regentova and Venkat Muthukumar have successfully completed a study of sensors for interactive and virtual inputs for gaming machines. This project was funded by International Gaming Technology (IGT) under UNLV's Applied Research Initiative grant. Northern Nevada-based IGT is the largest producer of slot machines in the country. This summer, the second phase of this project will be completed and will focus on developing the prototype to test the system, which tracks the player's eyeball using video processing techniques for interactive gaming. A variety of cameras — high resolution, low resolution, black and white, color, and infrared — will be used in the experiments. Three undergraduate students, Aaron Ponzio, Tan Wu, and Zach Devlin, worked with Professors Regentova and Muthukumar this summer to gain hands-on research experience as they complete phase two of the project.

Yesco Electronics' Lights and Graduate Student Research

Professor Paolo Ginobbi, Yesco Electronics' Chief Engineer Blake Gover, and electrical engineering graduate student Diana Lopez will spend the next year improving light emitting diodes (LEDs) with the help of Department of Energy funding. According to Ginobbi and Gover, the best display of the Yesco Electronics' LEDs are the ones displayed on top of Wynn Las Vegas.

Yesco is the oldest and most well-known Las Vegas entity that produces LEDs, which begin to fail after 3,000 hours of use. The projects goals are to reduce the power consumption to operate the LEDs, increase their life span, and maintain color uniformity.

NASA Information Grant

Professors Emma Regentova, Yingtao Jiang, and MeiYang have received a NASA Space Grant for the project called "Introducing NASA Information System Technology Projects to the UNLV Computer Engineering Program." Seven undergraduate students have been selected for the program, and attended a summer intensive course to learn data compression, data classification, and hardware design for on-board implementation. NASA sponsors the grant to strengthen the interaction and involvement of faculty with students, and also continue the study of data compression.

Department of Mechanical Engineering

Celebrating Our ABET Accreditation News

Recently, the Accreditation Board for Engineering and Technology (ABET), notified the college of a full re-accreditation for the Bachelor of Science degree in mechanical engineering. The re-accreditation is a result of collaboration of members of the mechanical engineering department faculty, staff, students, and donors. The department is especially grateful to the local engineering community, especially our Advisory Board, current chair Clark McCarrell, and past chair Thomas Doering.

The Advisory Board has been instrumental in critiquing our curriculum, creating and evaluating surveys, analyzing our self-study report, attending classes to analyze course content and the professor's impact on the class, and meeting with the ABET evaluator. McCarrell received numerous comments from the ABET evaluator that highlight the outstanding professional commitment and positive interaction between the entire Mechanical Engineering Advisory Board and the Department of Mechanical Engineering.



Professor Paolo Ginobbi with graduate student Diana Lopez.

Department Updates

Department of Civil Engineering

TRC Gets New Federal Status

The Transportation Research Center (TRC) has been designated by the U.S. Department of Transportation to host a federally funded University Transportation Center (UTC). The TRC will receive \$500,000 annually for at least the next five years through the federal transportation bill, and will be matched with support from other non-federal sources.

One of about 40 UTCs in the country, the UNLV center is the only one in the state of Nevada. The centers are designed to advance U.S. technology and expertise in the many disciplines comprising transportation through the mechanisms of education, research, and technology transfer at university-

based centers of excellence. The proposed theme of the UNLV UTC is "Enhancing Transportation Safety, Efficiency, and Sustainability."

Shashi Nambisan, TRC director, is proud to announce the center's federal status. He says, "It is a re-affirmation of our program's strength and to be included among a group of select universities, who have also achieved this distinction, is an honor. The designation will further enhance our national visibility and program recognition. In addition, this status provides stability to our program and will help us meet our long-term initiatives, while also attracting the most talented students and faculty to the College of Engineering and UNLV."

FIRST Competition

The FIRST (For Inspiration and Recognition of Science and Technology) Las Vegas Regional Competition will be held at the Thomas & Mack Center March 30 – April 1, 2006. The FIRST Robotics Competition program is targeted at high school students, and offers them the opportunity to work in teams to design and build robots, using a common kit of parts during a six-week period. Volunteer industry mentors work with the student teams to develop the projects. The students then enter their robots into regional competitions, where the robots perform particular tasks or "games." The best teams move on to compete in the championship held in Atlanta.

The planning committee recently offered two seminars to assist area high schools with their preparation for the competition. The first seminar was held Sept. 30 to welcome new teams, review the benefits of becoming involved with the FIRST program, and focus on the keys to a successful FIRST experience.

On Oct. 7, we welcomed NASA employee and FIRST supporter Cecilia Cordova to campus. Cordova presented an overview of the grant that is available to all rookie and second-year teams. The NASA grants provide the \$6,000 funding required to obtain the robot kit, which then enables the school to enter the competition.

UNLV faculty and students will share their expertise to help the local teams prepare for the competition. The local teams may use the College of Engineering's facilities from time to time to build their robot as well. Local teams include the following schools: A-Tech, BASIC, Cimarron Memorial, Coronado, Eldorado, Palo Verde, Rancho, and Silverado. The college anticipates at least 49 teams at this year's competition.

This is the second year for the FIRST Las Vegas Regional Competition. Additional information is available at www.lvfirst.org. If you would like to volunteer or are interested in FIRST sponsorship opportunities, please contact Caleen Johnson at caleen.johnson@unlv.edu or (702) 895-2913.



'Zero Energy' Home Project Launches Unprecedented Research

A suburban Las Vegas housing development is now a real-life laboratory for innovative research in renewable energy and conservation — the first research project of its kind to be conducted in the United States. The UNLV Center for Energy Research has teamed up with a consortium of partners — including Nevada Power and Pinnacle Homes — to design and construct a Zero Energy Home.



This Zero Energy Home model, located in southwest Las Vegas, will be open to the public to view and tour during the research phase.

"The zero energy model has been designed and constructed to minimize energy consumption and approach net zero energy usage over the course of a year, which means producing as much or more electricity than the home uses," said Bob Boehm, Ph.D., director of the UNLV Center for Energy Research (CER) and professor in the College of Engineering.

A Zero Energy Home (ZEH), a designation from the U.S. Department of Energy, combines state-of-the-art, energy-efficient construction and appliances with commercially available renewable energy systems such as solar water heating and solar electricity. These homes are connected to the utility

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UNLV Professor Receives Harry Reid Silver State Research Award

Shashi Nambisan, professor of civil engineering and director of the Transportation Research Center (TRC) at UNLV, was recently named the university's 2005 Harry Reid Silver State Research Award winner. The award carries with it a \$10,000 stipend and a medal.

Nambisan has been at UNLV since 1989, when he began work on a research program that aimed to identify and address transportation issues that faced Nevada's growing population. Since then, he has served as principal investigator or co-principal investigator on more than 115 sponsored projects at UNLV.

One such project that garnered national attention was Nambisan's work with the Nevada Agency for Nuclear Projects and Clark County to establish a method for evaluating the risks associated with the potential transport of spent nuclear fuel and other high-level radioactive materials to the proposed repository at Yucca Mountain. His work with Geographic Information Systems (GIS) technology enabled him to conduct a transportation impact assessment on the region and an analysis of alternative routes and their impact on states and communities. He also analyzed the potential impact on the project's infrastructure, including emergency management and response consequences.

Nambisan has been and continues to be instrumental in research aimed at improving transportation safety in Clark County, which is evidenced through his work toward building the Transportation Research Center (TRC) at UNLV, which promotes and conducts transportation research, education, and outreach activities. An example of his work with the TRC includes the Pedestrian Safety Program (sponsored primarily by the Federal Highway Administration), which identifies and analyzes high-risk pedestrian incident areas in order to allocate

resources for safety improvements, thus advancing pedestrian safety and walkability within the urban boundaries of the Las Vegas Metropolitan area.

His efforts funded by the Nevada Office of Safety include those aimed at enhancing traffic safety and the implementation of the Alternative Mode Program, which educates the public through programs focusing on pedestrian and bicycle safety. He also has led efforts on projects for the Regional Transportation Commission of Southern Nevada and the Clark County Department of Public Works to help improve the planning, operations, and management of transportation systems.

Nambisan earned his bachelor's degree from the Indian Institute of Technology in Madras in 1984, his Master of Science degree from Virginia Tech in 1985, and his Ph.D. from the University of California, Berkeley in 1989 – all of which are in civil engineering.

The Harry Reid Silver State Research Award was created in 2001 by UNLV President Carol C. Harter to honor full-time faculty members who are engaged in significant research that positively affects the economic growth of Nevada, addresses a pressing social need in the community, or demonstrably advances significant scholarship in an academic field of knowledge.



UNLV President Carol C. Harter congratulates Professor Shashi Nambisan for receiving honors in part for his research on Yucca Mountain.

Volunteer Helps Enhance ECE Labs

We are all conditioned to think about it, and plan for it, and to make it one of the crown jewels in our life: Retirement. So like many, geoscientist Stanley Goldfarb retired. Five years ago, after selling his Silicon Valley company, EXXUS, Inc., he moved to Nevada.

Goldfarb openly states that his most difficult adjustment was the change he experienced because his sense of purpose had changed. "My new lifestyle seriously reduced the amount of interaction I had with interesting people. I had been accustomed to the fast and daily pace that was required to keep up with the emergence of new technology in the Silicon Valley," he says. "Once I retired, I really needed something to do. Gambling was not an option – engineers understand probability!"

Goldfarb's quiet but boring retirement was transformed by a single telephone call he received from a previous EXXUS, Inc. employee. UNLV Professor Robert Schill had purchased some equipment from EXXUS, Inc. and had several questions. The customer service representative previously worked for Goldfarb, but he was unable to answer all of Schill's questions. He said he knew of someone in Las Vegas who may be able to offer some advice and direction. Professor Schill and Goldfarb connected, and their collaborations have created quite a partnership.

Today, Goldfarb has forged a strong working relationship with the Department of Electrical Engineering through volunteering his services. He is responsible for numerous in-

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Calendar of Events

December

- 2 Department of Civil and Environmental Engineering
Golf Tournament
Black Mountain Golf & Country Club 9 a.m.
Shotgun Start
- 7 Fall 2005 Senior Design Competition
Thomas T. Beam Engineering Complex, Building A,
Great Hall, 9 a.m. – 3 p.m.

January

- 7 Official Las Vegas kickoff of the 2006 FIRST Robotics
Competition 7 -10 a.m.
Cimarron Memorial High School

March-April

- 30-1 FIRST Robotics Las Vegas Regional Competition
Thomas & Mack Center

May

- 3 Spring 2006 Senior Design Competition
Thomas T. Beam Engineering Complex, Building A,
Great Hall, 9 a.m. – 3 p.m.
- 5 Spring 2006 Senior Design Dinner
Cox Pavilion, 6-9 p.m

VOLUNTEER

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kind donations of parts and other expensive and cutting-edge equipment the department needs to further its research. In addition, he is on call to assist Department Chair Rama Venkat. Currently, they are collaborating with several faculty members, students, and Bechtel Nevada to design a sputtering system.

The system consists of a high vacuum (one billionth of atmospheric pressure) chamber, pumps, and a magnetron head with the target for sputtering. The current project requires an isotope of boron to be deposited on devices for neutron detection for homeland security application.

Goldfarb has been the energizing force behind the building and operation of the system. He influenced his vacuum industry contacts to donate several major components for the system, and his efforts resulted its assembly for a mere \$10,000 — one-fifth the equipment's overall value. The system is functioning and the department is testing its performance. Once it is complete, students will be introduced to the research during their laboratory courses related to solid-state characterization.

Student Club News

Tau Beta Pi

Tau Beta Pi is an all-inclusive honor society serving the entire engineering profession and is the nation's second-oldest honor society.

The UNLV chapter of Tau Beta Pi, known as Nevada Beta, was chartered in February 1995. With approximately 50 active members, Nevada Beta is involved in various community service activities, including Habitat for Humanity, Meals on Wheels, and canned food drives.

Watch for the chapter's upcoming "Engineering Futures" sessions, usually held on Saturday mornings. The sessions were established by Tau Beta Pi to provide interpersonal skills for engineering students. Anyone in the College of Engineering may attend, but space is limited. To RSVP, which is required for attendance, contact Mike Sadowitz via e-mail at guyver86@yahoo.com.

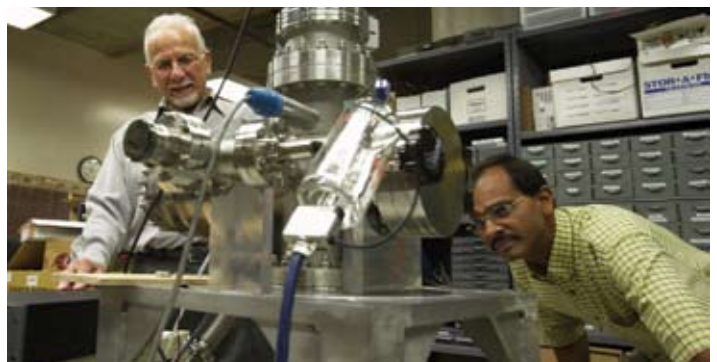
TRC Students

Each Friday from 12 to 1 p.m. students from the Transportation Research Center (TRC) sponsor guest speakers and/or give presentations regarding their research. The session is held in the Thomas T. Beam Engineering Complex, Building A, Room 365. If you are interested in attending, please contact Shashi Nambisan at (702) 895-1325.

ITE

The Institute of Transportation Engineers (ITE) UNLV Chapter received an Outstanding Chapter award for District 6, which encompasses the 13 most western states. The chapter received a \$200 award and an additional \$1000 to offset their travel expenses to attend the annual conference, which was held July.

In addition, Ganesh Karkee, a civil engineering graduate assistant, was named the recipient of the ITE Intermountain Section Ellis L. Mathes Scholarship. The \$1,000 scholarship was awarded at the ITE Intermountain Section meeting held May.



Stan Goldfarb and ECE department chair Rama Venkat examine the sputtering system.

Welcome

Ahmed Hassanein, Ph.D., an assistant professor in the construction management program, completed his undergraduate studies from Cairo University, Cairo, Egypt in 1989. He has earned masters' degrees from American University in Cairo, Egypt, and from McMaster University in Hamilton, Ontario, Canada. Hassanein received his Ph.D. from Concordia University, Montreal, Quebec, Canada, in 2003. He has a comprehensive and diverse background in the areas of structural engineering, seismic engineering, and constructional engineering and management.

Shizhi Qian, Ph.D., is a new addition to the mechanical engineering department, and comes to UNLV from the University of Pennsylvania. His research is in microfluidics and he has already completed some ground-breaking research in the area of "Lab-on-Chip." Qian's appointment will stimulate biomedical research at UNLV.

In Memoriam

Richard Brickman '96 (Ph.D., mechanical engineering) died August. 9. Brickman was the first mechanical engineering doctoral graduate. After graduation, he remained in contact with the department through participation in various research projects and course instruction. Brickman touched many through his dedication and hard work.

Zero Energy

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grid, but because they may produce as much electricity as they consume, the homes are considered "net zero" electricity consumption.

What's distinctive about this project is that two nearly-identical, 1,610 square-foot houses have been built side-by-side — one the Zero Energy Home model, and the other built using conventional construction practices. Both homes are equipped with monitoring instruments discreetly imbedded during construction so that UNLV researchers can monitor the energy efficiency and consumption of each home.

The project is a partnership between the UNLV Center for Energy Research and the Howard R. Hughes College of Engineering, Nevada Southwest Energy Partnership (NSWEP), Pinnacle Homes, and Nevada Power. ConSol and the U.S. Department of Energy's National Renewable Energy Laboratory (NREL) provided technical and design support.

Kevin Nelson, an alumnus of UNLV with extensive industrial experience, is our new model designer/machinist.

Christine Wallace joined the dean's office as the communications and special events coordinator for the college. Wallace comes to us from SUNY Cortland, where she was the special events coordinator for the president's office. She earned her M.S. in professional leadership from St. Bonaventure University and her B.S. in elementary education from Westminster College.

Marissa Blas recently joined the Academic Advising Center staff. Marissa comes to us from Brevard Community College on the Space Coast in Florida, where she was a student development specialist and advised mostly pre-engineering majors. Blas earned her master's degree in student development administration at Seattle University.

Promotions/Community Leadership

Hal Berghel, Ph.D., completed his second term as director of the School of Computer Science and is now the associate dean for new programs for the Howard R. Hughes College of Engineering.

John Minor, Ph.D., accepted the position of interim director for the School of Computer Science.

Thomas Piechota, Ph.D., Department of Civil and Environmental Engineering, was promoted to the rank of associate professor with tenure effective July 2005.

Jeanette Sorensen, director of advising and assessment, has been selected to chair UNLV's Advisors' Council for the 2005-2006 academic year.

Retirement/Relocation

Nina Cooper, Ph.D., retired from the School of Computer Science after 20 years of service.

John Harrison, Ph.D., also recently retired from service to the School of Computer Science.

Former assistant director of the Transportation Research Center **Srinivas Pulugurthat, Ph.D.**, has accepted a position with the University of North Carolina-Charlotte.

Fulbright Fellowship

Laxmi Gewali, Ph.D., spent the summer in Nepal on a Fulbright Fellowship given by the U.S. Department of State. While there, he helped establish an information technology program at Tribhuvan University in Kathmandu.

College of Engineering Honor Roll

The College of Engineering wishes to thank the following individuals, corporations and foundations for their generous support. Every gift to UNLV is important and valued. It is our wish to recognize all donors correctly. Please kindly call the UNLV Foundation at (702) 895-3641 if you discover an error or if information is missing. Thank you for your support.

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Message from the Dean

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230-processor supercomputer, is now in place to support our educational and research missions.

With many states facing reduced revenues, other engineering and computer science programs around the country are being forced to regroup and retrench. At UNLV, expansion and progress continue. All of our engineering programs were fully re-accredited this past year, with our recently established computer engineering program receiving accreditation for the first time. Our students continue to win or place highly in regional and national competitions. Our graduates are being placed in good jobs throughout the nation and in the best graduate programs

in the country. What we have is a good program on its way to becoming a great program.

We are dedicated to putting the excitement back into engineering and computer science, which will help attract the best quality students, faculty, and staff. We are making new connections daily with local industry, local, state, and federal government entities, such as Nellis Air Force Base and our K-12 educational system. The rest of the world may be drawing a bead on where we were, but we are not a stationary target. So, while there may be many negative factors surrounding technical education in this country, Las Vegas, UNLV, and the Howard R. Hughes College of Engineering are moving forward at full speed. We invite all of you on board for the ride of your life!

AIR FORCE ROTC

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Hogan, who entered the Air Force in 1978 after graduating from officer training school, was assigned as commander of AFROTC Detachment 004 in January 2005. At that time, he and his staff of five, including two officers, two noncommissioned officers, and an administrative assistant, went to work.

Compared to the Air Force Academy, Detachment 004 cadets benefit from the best of both worlds — receiving a quality civilian education while learning leadership and management skills in preparation for entering the Air Force. Upon graduation from UNLV, the cadets will be commissioned second lieutenants and be placed on their chosen Air Force career path as mid-level managers. Hogan expects many of the UNLV College of Engineering students to have successful careers as pilots, navigators, air battle managers, civil engineers, and engineers involved in the research and development of new weapon systems. Non-flying officers serve a four-year commitment on active duty, navigators serve six years after training, and pilots 10 years after training.

A competitive 2nd Lt. salary (\$35,000 for fiscal year 2005), 30 days paid vacation along with free medical care for individuals and families makes enrollment in the AFROTC program not only a viable option, but a preferred direction for

many of UNLV's patriotic students.

Air Force ROTC offers a three- or four-year program and two-year program, although most students select the four-year program.

The program begins with the general military course. Students study the role of the Air Force in the modern world and its history, and participate in various leadership labs to develop leadership and management skills. They also attend a four-week summer field training that provides a firsthand look at the Air Force environment.

Detachment 004 has a number of activities planned for this fall semester, including a Mt. Charleston campout, paintball games, and providing support to the Nellis Air Force Base air show in November. The unit's mission is simple — to grow leaders for the nation's Air Force. Courses will emphasize the development of the whole person, focused on academics, fitness, and leadership. Detachment 004 hopes to grow quickly to become one of the biggest and best AFROTC detachments in the nation, building upon the Air Force core values of "Integrity, Service Before Self, and Excellence In All We Do."

Our Runnin' Rebel hats are off to the new UNLV Air Force ROTC Detachment 004. UNLV is proud to lead the way and assist in the development of our nation's future soldiers.