Research Team Wins $1.3 Million for Technology Project
Nicholas Kioussis and UCLA Colleagues Working to Improve Technology Used in Cell Phones, Computers

Physics professor Nicholas Kioussis and three colleagues from UCLA have been awarded a $1.3 million grant from the National Science Foundation as part of an interdisciplinary research team studying nanoscale technology.

The prestigious National Science Foundation Nanoscale Interdisciplinary Research Teams (NIRT) grant—the first CSUN has received—will support the researchers’ efforts to improve the microscopic technology used in products such as cellular phones, Ipods, laptop computers and video games.

As electronic products decrease in size, Kioussis explained, the transistors or wires that carry the electrical currents must also decrease. Today’s electronic products use wires made mostly of copper, which loses electrical stability when reduced to a certain dimension. Displacement of atoms in copper causes voids between the wires, he said, interrupting the flow of electricity and the performance of electronic equipment.

As electronic products decrease in size, Kioussis pointed out that discovering how to strengthen copper wires at the nanoscale level and eliminating displacement would result in electronic products with increased memory capabilities, while the products themselves continued to decrease in size.

The transition from micro to nanoscale will happen within the next five to ten years, said Kioussis, stressing that the U.S. needs to emerge as a leader in downsizing the scale of microchips in order to stay competitive in the microelectronic industry. “Our research could have a significant impact and enhance the U.S. global position in producing electronic products.”

Cal State Northridge will work with UCLA to develop classes on nanoscale structure and to provide students with comprehensive training in all scale sizes. “CSUN and UCLA each have different areas of expertise. We want to teach students how to link the separate approaches,” said the researcher.

The results of the research could have a significant impact on consumer products, he said, adding that Intel Corporation already has shown an interest in the findings.

Kioussis pointed out that discovering how to strengthen copper wires at the nanoscale level and eliminating displacement would result in electronic products with increased memory capabilities, while the products themselves continued to decrease in size.

The ultimate solution, he said, would be to have free-standing wires. “Now we need to work hard and prove ourselves.”

Northridge Program Paves the Way for 21st Century Scientists
‘Tomorrow’s Scientists’ Empowers Future Teachers, Ignites Passion for Science in Young Students

When assistant biology professor Virginia Vandergon began teaching at Cal State Northridge six years ago, she noticed a kind of unease among many of the aspiring teachers in her science classes.

“People are unsure about science just wasn’t positive. It wasn’t negative, either; it was just that they were a little leery of it,” she said.

A geneticist who has taught at the high school and community college levels, Vandergon felt she had to do something about that. Research has shown that teachers who are insecure about subject matter impart that insecurity—or negativity—to their young students.

Vandergon, the mother of a three-year old scientist-in-training, is worried about the “science literacy” of the nation’s school children. She cites a recent National Center for Education Statistics (NCES) report that placed California students’ average science test scores among the lowest in the nation and tracked a national decline in scores for high school seniors.

To attack the problem, the action-oriented Vandergon worked with Maureen Rubin of the Center for Tomorrow’s Scientists, which is a science education program for students at a local middle school. Rubin and Vandergon developed a curriculum for high school teachers and created a program for middle school teachers that teaches them science content, helps them think about science and trains them to incorporate the curriculum into their classes.

California students’ average science test scores among the lowest in the nation and tracked a national decline in scores for high school seniors.

To attack the problem, the action-oriented Vandergon worked with Maureen Rubin of the Center for Tomorrow’s Scientists, which is a science education program for students at a local middle school. Rubin and Vandergon developed a curriculum for high school teachers and created a program for middle school teachers that teaches them science content, helps them think about science and trains them to incorporate the curriculum into their classes.
The Robots are Coming! CSUN to Host Kids and Their Creations

Contests Show Young Students that Science and Technology are ‘Cool’ Careers

Up to six hundred middle and high school students from the Southern California area will converge on Cal State Northridge to take part in two robotics competitions set for Saturday, Dec. 10, from 9 a.m. to 5 p.m. at Jaccaranda Hall.

In order to spark an interest in science and technology among young people, the competitions will be hosted by CSUN’s Manufacturing Systems Engineering and Management Department with the support of US FIRST, a nonprofit multinational organization whose goal is to make science, math, engineering and technology “as cool for kids as sports are today.”

Manufacturing systems engineering and management lecturer Tarek Shraibati, an event organizer, said he hopes the program will introduce more students to the world of robotics and “start planting the seed that science and engineering are possible ways to go for career choices.”

The “Ocean Odyssey” competition for the middle school level requires teams of up to ten students and at least two adult coaches to research the impact of human activities on the health and productivity of the world’s oceans and seas.

At locations in and around Jaccaranda Hall, each middle school team will put their LEGO-constructed robots through their paces on a 4’ x 8’ mat representing the ocean. Pint-sized facsimiles of ocean submersibles or other student-devised robots will be commanded to perform timed tasks such as repairing an underwater pipeline, building an artificial reef or cleaning up a cargo shipping accident.

Teams will be judged on the quality of the software programs they design for their robots—which include gears, motors and rotation, optical and touch sensors—as well as on the engineering aspects and durability of their machines.

Afterwards, each team will give a presentation related to the effects of humans on oceans.

The more sophisticated high school level competition, called “The Half-Pipe Hustle,” will pose a series of physical challenges for the robots. Built by the students from kits that include motors, radio control systems and various structural elements, the mid-sized robots will perform a series of complicated timed maneuvers on a 12’ x 12’ physically challenging “field.”

Judging criteria for “The Half-Pipe Hustle”—sponsored in its inaugural year by RadioShack—will be the same as in the “Ocean Odyssey” competition. The contest, said Shraibati, offers participating high school students an affordable robotics laboratory in which to work, allowing more students to compete.

Winners will receive medallions, but Shraibati said prizes are not the focus of the competition. Its purpose, he said, is “to show kids that they can do things they didn’t think they could do, and that they can have fun in a sportsmanlike way.”

For more information, contact Shraibati at (818) 677-4547 or at tarek.shraibati@csun.edu.

Merry Ovnick is Recipient of UCLA-CSU Mentoring Honor

CSUN’s Julio Blanco, Jobnie Scott and Maria Elena Zavala are Among 15 CSU Nominees

Merry Ovnick, associate professor of history, has been honored by the UCLA-CSU Collaboration Recognition of Excellence in Mentoring for 2005, a tribute created by UCLA’s Graduate Division to salute the role of CSU faculty in preparing students for graduate education.

Ovnick was one of 15 CSU system nominees for the recognition, including three others from Cal State Northridge: Julio Blanco, chair of the Physics and Astronomy Department; Jobnie Scott, associate professor of Pan African Studies; and biology professor Maria Elena Zavala.

Nominations are based on the recommendations submitted by former CSU students who are earning their doctorates at UCLA. Ovnick, the History Department’s intern coordinator since 1994, was cited for her commitment to mentoring students, many of whom are non-traditional.

“CSUN attracts some students whose depth of inquiry, insights and excitement about their subject matter mark them as exceptionally promising,” said Ovnick, herself a CSUN alumna.

“They may be unawares of the degree to which they excel, or of the advanced degrees and lustrous careers to which they might aspire. What a pleasure it is to show such students the options open to them and to help them reach their potential!”

Shirley Hune, associate dean of UCLA’s Graduate Division, said the UCLA-CSU Collaboration was undertaken to strengthen connections between UCLA and the CSU, to enhance the graduate pipeline for CSU students and to increase student diversity.

In the partnership between CSU and UC campuses, the Sally Casanova Pre-Doctoral Fellowship and the CSU Forbearable Loan—both formal mentoring programs—assist students transitioning to doctoral studies. Currently, four of Ovnick’s CSU graduate mentees are enrolled in UCLA’s doctoral program in history, and one is a UC Santa Barbara English major.

Three of the five received Casanova fellowships, and two received forgivable loans.

Hune noted that CSU students apply, are accepted, and graduate from UCLA at a higher rate than the overall graduate student population. CSU graduates reportedly comprise about 25 percent of UCLA’s entering doctoral students.

“In going extra steps to help students seek out internships and other opportunities,” Hune said, “Dr. Ovnick has broadened their life choices and contributed to new research areas.”

Ovnick earned bachelor’s and doctoral degrees in history from UCLA, and a master’s degree from CSUN. Editor of the Southern California Quarterly, she is the author of “Los Angeles—The End of the Rainbow.”

Tomorrow’s Scientists...

continued from page 7

Community Service-Learning to develop a program called “Tomorrow’s Scientists,” now in its fifth year.

“My research showed that many elementary school teachers teach science when they feel they know something about science, when they feel comfortable with the topic,” Vandergon said. “I also wanted to dispel the myth that science is boring and can’t be fun.”

Rabin and other CSUN faculty have worked with Vandergon on the project: Elementary Education Department chair David Krestchmer, geological sciences professor Gerry Simila, geological sciences assistant professor Elizabeth Nayg-Shadman, biology lecturer Michael Franklin and the staff of CSUN’s Service-Learning unit.

Through the years, that team has helped bring to the university as many as 48 San Fernando Valley middle school students—many from under-represented groups—twice a week for two hours of intensive, innovative science education classes during CSUN’s fall and spring sessions. “We’ve only been rained out once in the five years of the program,” Vandergon said.

The sessions are conducted entirely by CSUN teaching credential students—there are 24 in this year’s program—enrolled in “Biological Concepts,” Vandergon’s general biology course specifically geared to liberal studies students on track to earn their Integrated Teacher Education Program (ITEP) multi-subject teaching credentials.

Earth sciences are offered in the spring component. “The ITEP students don’t merely assist,” Vandergon said. “They run the show. They design and implement science lessons from materials they’ve gathered at the library or on the Internet, and they construct their lesson plans in sync with California state science standards.”

In a recent session, self-assured sophomores Jennifer Mazekiya and Dave Miller led their seventh graders through the intricacies of nature’s food chain: from tertiary, secondary and primary consumers (snakes, mice and grasshoppers, respectively) all the way down to producers—grass, for instance. “So a snake has to eat a lot of secondary consumers to get the energy they need,” right?” asked Mazekiya, to a chorus of adolescent groans.

Vandergon chose to work with middle school students—this year from the Van Nys, Sutter and Patrick Henry middle schools—because students who originally had an interest in science tend to lose that interest in middle school. Many of her middle schoolers benefit from early exposure to a university campus, she said, and the program gives them an important opportunity to learn science from young teachers who are well-grounded and enthusiastic. “Many have parents who can’t afford to send them to a science camp,” she said.

Funded this year by Learning Centered University (LCU) grants from the Office of the Provost and earlier by Eisenhower grants, “Tomorrow’s Scientists” has been a greater success than even Vandergon expected.

Preliminary data reveals very good performances by Biology Concepts students in department-wide assessments.

“Students have indicated they have learned a great deal about how to prepare content-rich yet fun and engaging pedagogy in science,” she said. “Significantly, they say they will make a concentrated effort to integrate science into their curricula.”

And that, Vandergon believes, is how new scientists are born.
For Your Information publishes announcements of events, public meetings, notices, classes and deadlines. Submission deadline is noon on Monday, one week before the next issue.

The deadline for the January 30 issue is Monday, January 23.
We strive to include all items submitted by deadline occurring until the next issue. Submit future items by e-mailing them to pubinfo@csun.edu, sending them to mail drop 8242 or faxing them to (818) 677-4900. Email is the preferred method of submitting.

FYIFYI
subcommittee of the board in October expire in November. However, a year for a one-year term that was to three years.

President to Serve on Board of National Higher Education Advocacy Group Until 2008

AASCU Votes to Extend President Koester’s Term on Board
President to Serve on Board of National Higher Education Advocacy Group Until 2008

Research, Scholarship and Creative Activity Award
The Research and Grants Committee announces the 2006–2007 competition for Research, Scholarship and Creative Activity Awards. Apply by 3 p.m. on Friday, December 15, to qualify for the opportunity to receive up to $5,000 to pursue their scholarly and creative interests. Faculty may apply for three units of released time and/or funds for project expenses. Guidelines and application may be downloaded from the Research and Sponsored Projects Web site at www.csun.edu/research. The deadline for Fall Awards is 5 p.m., Monday, Feb. 20, 2006. fmi–x2901.

Human Subjects Research Approval
Faculty and students performing research with human subjects must complete Human Subjects Protocol Approval forms. Original forms and nine copies must be submitted to the Standing Advisory Committee for the Protection of Human Subjects. Next meeting date: December 13. Next deadline date: February 7, for the February 21 meeting. Download protocol submission forms from www.csun.edu/~grpact/03_Research/06_HumanSubjectsResearch.html.

Students—Use E-mail, Win a Prize
Cal State Northridge is launching a special communications initiative over the next two weeks (Dec. 5–16) to emphasize to students the importance of using their university e-mail accounts. E-mail is the official communication of the university, and it is the responsibility of students to activate and monitor their university e-mail accounts.

For more information on activating or forwarding university e-mail, go to www.csun.edu/email. For user IDs or assistance, call the University Help Desk at (818) 677-1400.

December 5, 2005 • OBSIS • California State University, Northridge 3
Northridge’s Cultural Landscape Enriched by ‘Heavenly Hands’  
Romanian-Born Sculptor’s Monumental Work is Dedicated in Art and Design Courtyard

"Heavenly Hands," a monumental sculptural group by acclaimed Romanian-American artist Patricia (Patrick) Mateescu, is a new and striking addition to the Cal State Northridge cultural landscape. Permanently located in the courtyard of the university’s Art and Design Center off Halsted Street, the piece is a gift to the university from manufacturing systems engineering and management professor Ileana Costea and Ion Baroi, CFO of MV Medical Management.

Mateescu was present at the November dedication of “Heavenly Hands,” a ceremony also attended by Catalin Ghenea, the acting Romanian consul general in Los Angeles, William Toutant, dean of the College of Arts, Media, and Communication, and many campus officials.

"CSUN represents a large part of my life," said Costea, a native of Romania who has taught at CSUN since 1979. "I am happy I could bring with Mateescu’s sculptures a touch of the culture of my country of origin."

Created in 2002 while Mateescu was a CSUN artist-in-residence and later acquired by Costea and Baroi, the "Heavenly Hands" group consists of five black-glazed stoneware hands, each about ten feet tall. The work was a joint project of the university’s College of Arts, Media, and Communication, and its College of Engineering and Computer Science.

It does not surprise Costea that "Heavenly Hands" originally was sponsored both by arts and engineering departments. "Its creation required engineering thought: foundations, resistance of materials, methodology." In constructing "Heavenly Hands," the New Jersey-based artist placed strips of clay one on top of the other, using an ancient technique similar to that used by Greek potters centuries ago. "This made him work very fast," said Costea. "The sculptures grew with impressive speed, and were ready to be fired in the CSUN kilns in ten days."

The sculpted hands are described by the artist as religious symbols of Byzantine influence, "strange formations of the clouds evolving from the sky or maybe directly from divine transcendence."

"From building sand castles in my childhood to my present work," Mateescu has said of his work, "the pleasure of hand modeling the clay remains the final formal expression of my sculptures."

Mateescu has a strong presence in the Los Angeles area, said Costea. Other Mateescu sculptures in the area include "Love Flower I" at UCLA’s Sunset Recreation Center, and a work at Cedars-Sinai Medical Center. "In displaying his work, CSUN is in good company," Costea said.

Mateescu was awarded the New Jersey Council on the Arts Fellowship; the gold medal at The 36th International Ceramics Show in Faenza, Italy; the Diplôme d’Honneur at The Third Biennial of Ceramics in Vallauris, France; and numerous prizes from Turkey, Germany, Romania and elsewhere.

The A.S. Ticket Office in the University Student Union sells tickets to many events on campus, except for some held by outside groups. The Ticket Office is open from 10 a.m.—6 p.m. Mon.—Fri. For prices not given, call (818) 677-2488. To park on campus for performances, athletic events, lectures and other activities, guests must purchase a $4 parking permit.

For ticket info, call (818) 677-2488 or visit www.csub.edu/physics/planetarium. Telescope viewing will follow the second show.

"Autumn Sky Show" and "Age and Evolution of the Earth: Three Revolutions in One Century" Fri., Dec. 9, 6:30 p.m.

"Winter Sky Show" Fri., Jan. 6, 7 p.m.

"Winter Sky Show" Fri., Jan. 20, 7 p.m.

Athletics (home games):

Men’s Baseball
12/17 Illinois State 7:05 p.m.
12/20 Fairfield 7:05 p.m.
1/7 Cal State Fullerton 4:05 p.m.
1/9 UC Riverside 7:05 p.m.
1/19 UC Davis 7:05 p.m.

Men’s Basketball
12/13 Southeastern Louisiana 5 p.m.
12/16 Portland 7 p.m.
1/7 UC Irvine 7 p.m.
1/15 Long Beach State 4 p.m.
1/26 UC Santa Barbara 7 p.m.
1/28 Cal Poly 4 p.m.

Men’s Basketball
1/27 Stanford 7 p.m.
1/28 Pacific 7:30 p.m.

Women’s Swimming
1/14 Pepperdine noon

Women’s Basketball
12/13 Louisiana 5 p.m.
1/16 UC Irvine 7 p.m.
1/18 Long Beach State 4 p.m.
1/26 UC Santa Barbara 7 p.m.
1/28 Cal Poly 4 p.m.

Men’s Volleyball
1/27 Stanford 7 p.m.
1/28 Pacific 7:30 p.m.

Women’s Swimming
1/14 Pepperdine noon

Women’s Tennis
1/24 Fresno Pacific 1 p.m.
1/27 Cal Poly 11 a.m.

Track & Field
1/8 All Comers 8:30 a.m.
1/15 All Comers 8:30 a.m.
1/22 All Comers 8:30 a.m.

Opera Workshop
Ann Baltiz, director.
Tues., Dec. 6, 8 p.m.
Music Recital Hall

Symphony Orchestra
John Roscigno, conductor.
Thurs., Dec. 8, 8 p.m.
Northridge Center

The Lesson
By Eugene Ionesco
Mon., Dec. 5, 7 p.m.

"L’Enfer"
Directed by Claude Chabrol.
Tues., Dec. 6, 7 p.m.

"The Last of Sheila"
Directed by Herbert Ross.
Mon., Dec. 5, 7 p.m.

"To Be Or Not To Be"
Directed by Ernst Lubitsch.
Wed., Dec. 7, 7 p.m.

"La Fleur du Mal"
Directed by Claude Chabrol.
Thurs., Dec. 8, 7 p.m.

Music Recital Hall
Ann Baltiz, director.
Tues., Dec. 6, 8 p.m.

Symphony Orchestra
John Roscigno, conductor.
Thurs., Dec. 8, 8 p.m.
Northridge Center

The Lesson
By Eugene Ionesco
Mon., Dec. 5, 8 p.m.

"L’Enfer"
Directed by Claude Chabrol.
Tues., Dec. 6, 8 p.m.

"The Last of Sheila"
Directed by Herbert Ross.
Mon., Dec. 5, 7 p.m.

"To Be Or Not To Be"
Directed by Ernst Lubitsch.
Wed., Dec. 7, 7 p.m.

"La Fleur du Mal"
Directed by Claude Chabrol.
Thurs., Dec. 8, 7 p.m.

Music Recital Hall
Ann Baltiz, director.
Tues., Dec. 6, 8 p.m.

Symphony Orchestra
John Roscigno, conductor.
Thurs., Dec. 8, 8 p.m.
Northridge Center

The Lesson
By Eugene Ionesco
Mon., Dec. 5, 8 p.m.

"L’Enfer"
Directed by Claude Chabrol.
Tues., Dec. 6, 8 p.m.

"The Last of Sheila"
Directed by Herbert Ross.
Mon., Dec. 5, 7 p.m.

"To Be Or Not To Be"
Directed by Ernst Lubitsch.
Wed., Dec. 7, 7 p.m.

"La Fleur du Mal"
Directed by Claude Chabrol.
Thurs., Dec. 8, 7 p.m.

Music Recital Hall
Ann Baltiz, director.
Tues., Dec. 6, 8 p.m.

Symphony Orchestra
John Roscigno, conductor.
Thurs., Dec. 8, 8 p.m.
Northridge Center

The Lesson
By Eugene Ionesco
Mon., Dec. 5, 8 p.m.

"L’Enfer"
Directed by Claude Chabrol.
Tues., Dec. 6, 8 p.m.

"The Last of Sheila"
Directed by Herbert Ross.
Mon., Dec. 5, 7 p.m.

"To Be Or Not To Be"
Directed by Ernst Lubitsch.
Wed., Dec. 7, 7 p.m.

"La Fleur du Mal"
Directed by Claude Chabrol.
Thurs., Dec. 8, 7 p.m.