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*Call 434.924.1382 for information.*
features

The Engineering School Senior Thesis—
100 Years and Counting /8
William Mynn Thornton, the first dean of the Engineering School, established the undergraduate thesis requirement in 1904 and reviewed every project himself. Today, the thesis requirement remains the capstone of the University’s engineering experience.

Dean Richard W. Miksad: A Force for Change /10
Dean Richard W. Miksad steps down as dean of the School of Engineering and Applied Science, leaving a legacy of accomplishment and a plan for continuing excellence and growth.

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Director of Communications & Editor
Josephine Pipkin

Copy Editor
Peggy Mucklo

Contributors
Cathy Eberly
Josephine Pipkin

Design
Roseberries

Photography
Dan Grogan
Biomedical Engineering

Brett R. Blackman received a grant from the Atorvastatin Research Award Program sponsored by Pfizer Inc. for his work "Heterogeneity in Signaling Adaptation of Human Endothelial Cells in Response to Human Hemodynamic Forces: A Proteomics Approach."

Craig H. Meyer and Brett R. Blackman received Whitaker Foundation research grants. Meyer’s project is “Rapid Magnetic Resonance Imaging of Myocardial Ischemia.” Blackman’s project is “Adaptive Heterogeneity of Human Endothelial Cells Exposed to Human Arterial and Venous Hemodynamic Shear Forces.”

Chemical Engineering

John L. Hudson’s research was featured on the covers of the Journal of Physical Chemistry and the AIChE Journal in 2003.

Giorgio Carta served on the organizing committee of the 2003 International Preparative Chromatography Symposium, held in San Francisco.

Robert J. Davis lectured at the Pan-American Advanced Studies Institute on Materials for Energy Conversion and Environmental Protection, held in Rio de Janeiro, Brazil, in October.

Erik J. Fernandez serves as programming coordinator for the American Chemical Society biochemical technology division.

Matthew Neurock delivered keynote lectures at international conferences in Germany, Mexico and Puerto Rico.

John O’Connell was awarded the Gulbenkian Visiting Professorship at the Instituto Superior Tecnico in Lisbon, Portugal, during fall 2003.

Civil Engineering

Susan E. Burns received a visiting appointment to the Centre for Offshore Foundation Systems within the College of Engineering, Computing and Mathematics at the University of Western Australia.

Nicholas J. Garber was elected to the National Academy of Engineering. He was awarded the Edmund R. Ricker Transportation Safety Award for individuals for his contributions to advance highway safety as a researcher and educator.

Brian L. Smith was recognized by the Council of University Transportation Centers as the outstanding new faculty member in transportation in 2003.

Computer Science

Tarek F. Abdelzaher was appointed technical program chair of the 10th IEEE Real-time Technology and Applications Symposium. He was appointed associate editor of the Journal of Real-time Systems, and appointed editor of the ACM SIGBED Newsletter.

Jack W. Davidson was elected to the executive board of the Association of Computing Machinery’s Special Interest Group on Programming Languages. He served as a member of the organizing committees for the 2003 Federated Computing Research Conference and the 2004 International Conference on Compilers, Architecture and Synthesis for Embedded Systems. He is a member of the program committee of the 2003 International Conference on Parallel Architectures and Compilation Techniques.

Thomas B. Horton is general chair of the 17th IEEE Computer Society Conference on Software Engineering Education and Training, held in Norfolk, Va., in March.

Martin A. Humphrey’s work was one of the four projects chosen out of 800 projects to highlight Microsoft’s recent Faculty Summit.

Greg Humphreys’ work was featured in the February issue of LinuxWorld magazine, and Silicon Graphics Inc. issued a press release announcing that it will be using his work as a major part of their strategy for cluster rendering.

Jorg Liebeherr was elected chair of the Technical Committee on Computer Communications in the IEEE Communications Society for 2004–2005.

David Luebke’s “Scanning Monticello” project was showcased in a museum exhibition at the New Orleans Museum of Art. A piece from that exhibition is now on display in the U.Va. Rotunda.

Kevin Sullivan was invited by the National Science Foundation (NSF) to run a series of workshops on the Computer Information Science and Engineering Directorate’s crosscutting research theme, “The Science of Design.”

John A. Stankovic will be the general chair for SenSys 2004, a major conference on wireless sensor systems, to be held in November 2004.
IN ORDER TO BE SUCCESSFUL, TOMORROW’S ENGINEERS WILL need more than technology skills and a broad exposure to the liberal arts. They also will need to be able to perform in a global economy.

Our goal at the Engineering School is to educate a new generation of engineers who combine expert knowledge, familiarity with policy-making, and a global viewpoint. We must work with the right students, who have the right interests, and we must provide them with training in the right fields and expose them to the world beyond U.S. borders. By doing so, we strive to prepare our students to be “renaissance” engineers—ready to meet any challenge as they serve an ever-changing society.

We educate tomorrow’s renaissance engineers in many ways. As you will read in this issue of the magazine, we are celebrating the 100-year anniversary of our senior thesis requirement. As our fourth-year students develop their year-long thesis projects, they work with faculty on technical, planning and communications skills; in the process they become technology leaders who understand the potential societal and ethical implications of their work.

Some of our students gain valuable policy-making experience through our Science and Technology Policy Washington (D.C.) Internship program. In the program’s first three years, our students have enjoyed exciting internships in high-level policy-making offices where they have opportunity to learn about the political, economic and social pressures that contribute to the formulation of public policy. Markus Weisner, a 2001 intern, was recently named a 2004 Truman Scholar, based on his leadership potential and intellectual ability.

Through the School’s participation in the Universitas 21 Science, Engineering and International Diplomacy program, we provide our undergraduates opportunities to intern in a foreign ministry, where they can observe the increasingly important roles that science and engineering play in shaping foreign policy. Other engineering students participate in the International Technology and Management program, which allows students to study at partner institutions and to choose courses that bridge the gap between traditional engineering and business education.

Many of our students seize opportunities to explore the world outside the classroom through our Capstone Projects. Last summer, a group of undergraduates went to Guatemala to help with a sanitation project. Other students participated in the research work of Professor Robert Marquez, who devises technical solutions to environmental problems using tools and technology readily available in developing countries.

But not every opportunity to offer our students renaissance experiences occurs far from Charlottesville. Recent changes to our curriculum make it easier for students to study outside their chosen technical field. Currently 40 percent of our undergraduates minor or earn a second major in another discipline—10 percent in economics alone. And this year, we launched the Robert and Ashley Montgomery Engineering Business Minor, thanks to the generosity of alumni Dan T. Montgomery of Clark Construction Group and William P. Utt.

Our School continues to educate tomorrow’s engineers—just as it has done for as long as any of us remembers. Times change, but the excellence of our students and their ability to adapt to change remains the same. Thank you for all you do to help keep our educational programs strong and vibrant.

—DEAN RICHARD W. MIKSAD
Robert G. Kelly was selected as the U.S. editor for *Corrosion Engineering, Science and Technology*, an Institute of Materials (UK) publication. Rob is also assisting in the selection of materials for the Pentagon 9/11 memorial.

John R. Scully was appointed to the Defense Science Board on Corrosion Control. This group is charged with the responsibility of recommending strategies to reduce the substantial costs, drain on operational readiness, and safety concerns suffered by the military due to corrosion.

Haydn Wadley was elected chair of the Defense Science Research Council.

Mechanical and Aerospace Engineering

Hilary Bart-Smith was awarded a fellowship in Science and Engineering from the David and Lucile Packard Foundation. The foundation received 99 nominations from 50 invited universities, from which the Packard Advisory Panel selected 16 fellows nationwide. The five-year fellowship began in October 2003. Her research interests are in ultra-light materials, morphing structures and polymer composites. She was also recently selected as a U.Va. teaching fellow.

Science, Technology and Society (formerly Technology, Culture and Communication)

Rosalyn W. Berne and William A. Wulf (CS) were quoted in a *Richmond Times-Dispatch* article headlined “The World in Tiny Pieces/Nanotechnology Engineers Will Face the Same Ethical Concerns as Other Sciences.”

Patricia C. Click was featured in an online chat sponsored by the online Civil War Search Directory [www.civilwarsearch.com](http://www.civilwarsearch.com). She answered questions related to the research she conducted for her recent book, *Time Full of Trial: The Roanoke Island Freedmen’s Colony, 1862–1867*, and responded to queries about her Web site, [www.roanokefreedmenscolony.com](http://www.roanokefreedmenscolony.com).

Michael G. Gorman was appointed a Sigma XI lecturer.

Deborah G. Johnson was quoted in *The Scientist* in an article headlined “Engineers Consider Ethics/New Technologies Melding Biology with Machines Create New Dilemmas.” She and William A. Wulf (CS) were quoted in an *EETimes* article titled “Rising Technologies an Ethical Pandora’s Box for Engineers.”

Kay A. Neeley received the Sterling Olmstead Award for 2003 from the liberal education division of the American Society for Engineering Education for her outstanding contributions to engineering education.

Edmund P. Russell III received the Edelstein Prize from the Society for the History of Technology for *War and Nature: Fighting Humans and Insects with Chemicals from World War I to Silent Spring.*

Kathryn C. Thornton was the subject of a *Richmond Times-Dispatch* article titled “Journey Farther, Says Space Walker.” Thornton, a former astronaut whose final mission was in 1995 as the payload commander aboard Columbia, logged 975 hours in space, including 31 hours of space walking. She flew her first mission as a specialist in 1989, making one of the early night launches on board the space-shuttle Discovery, and assisted in a shuttle service call to the Hubble space telescope.

Systems and Computer Engineering

Peter A. Beling was made vice president of publications for the IEEE SMC Society, and he also ran a workshop for Credit Risk Modeling in Banff, Alberta, Canada.

Michael D. DeVore won research awards from Raytheon and the Office of Naval Research.

Alfredo Garcia won two research awards from NSF for “Security of Supply and Strategic Learning in Power Markets” and “Complex Network Optimization.”

Stephanie A. E. Guerlain, working with colleagues at Ohio State University and Petrobras, a Brazilian industrial partner, has started an internationally funded project that provides for a supervised exchange of 20 systems and industrial engineering undergraduate students between two Brazilian and two American universities over a four-year period. The students will learn the language and culture of the partner country, while developing competencies in human factors, ergonomics, and cognitive engineering as applied to the petrochemical domain. The program will form the basis for cognitive engineering research in Brazil, and give students skills in designing for high-risk and complex systems.

Yacov Haimes (PI), Barry M. Horowitz (Co-PI) and James H. Lambert (Co-PI) won two awards from NSF: “Input–Output Risk Model of Critical Infrastructure Systems” and “Risk-Based Methodological Framework for Scenario Tracking and Intelligence Collection and Analysis for Terrorism.”
Tisan Ahmad, SIE  
*National Research Council, National Academies of Science*
She created a project-management tool and a database system for tracking the progress of reports on projects such as global warming and gun control.

Arielle Bertman, SIE  
*Senator Lieberman’s Office and Progressive Policy Institute*
She worked on science and technology policy issues, drafted a policy article for *Science* magazine, and drafted briefings for inclusion in congressional letters of support concerning cyber-security, homeland security and nanotechnology.

Alexander Hang, CS  
*Office of Technology Policy (Department of Commerce)*
He helped with briefings for the undersecretary of technology, and researched the science and technology infrastructure of other nations and the interests of American technology companies doing business abroad.

Chris Malow, ChE  
*House Committee on Science*
He participated in the investigation of the space-shuttle Columbia accident, organized committee hearings and prepared a policy paper suggesting a cooperative effort toward U.S. and European global positioning satellite systems.

Tiffany Nichols, ECE  
*National Science Foundation (Directorate of Computing and Information Sciences and Engineering)*
She researched science and technology policy development, including newly evolving cyber-infrastructure policy.

Soham Sen, SIE  
*Federation of American Scientists*
He worked on the digital human project: the creation of a digital simulation of a human being for the purpose of testing surgical procedures and drug response. He also worked on development of a biosecurity conference of leading researchers and security policy makers.

Amanda Singleton, SIE  
*Environmental Protection Agency*
She researched the impact of nitrogen fertilizer pollution on groundwater valuation and the future of the recently suspended total maximum daily load rule.

Ahson Wardak, ECE  
*Woodrow Wilson International Center for Scholars*
He researched nanotechnology and the impact of federal regulation on nanotechnology for the foresight and governance project.

Thomas Francis Woods III, ChE  
*Office of Chemical and Biological Weapons in the Bureau of Arms Control at the U.S. Department of State*
He researched methods of decontaminating equipment exposed to chemical agents and worked on a project to increase participation in the Chemical Weapons Convention.

Melissa Yingling, BME  
*Department of Health and Human Services’ Office for the Advancement of Telehealth*
She assisted with grants for telehealth programs, performed background research and provided insight for a proposal from the Health Resources and Services Administration for the use of a telehealth initiative to prevent mother-to-child transmission of HIV/AIDS in Mozambique.

“My internship assignments required a technical background as well as an understanding of world politics, which came naturally to me because of the Engineering School’s focus on both technology and the humanities.”  
—THOMAS F. WOODS III

A Capstone Team Works with Army ROTC on Self-Assessment Tool

A Capstone team led by Stephanie Guerlain (SIE) developed a self-assessment tool to determine the readiness of a team to accomplish a given task. In February, the Capstone team worked with cadets from the Army ROTC Cavalier Battalion to test the tool’s ability to assess team readiness to accomplish search-and-rescue missions. The simulated search-and-rescue exercise was held at Scott Stadium in February.
New Major in Biomedical Engineering is Approved

The State Council of Higher Education in Virginia recently approved a new undergraduate major in biomedical engineering at the University of Virginia.

U.Va. has offered graduate degrees in biomedical engineering since 1967 and an undergraduate minor for the past four years. But until now, it had not offered a bachelor’s degree program in this rapidly emerging field.

“This new degree will enable us to compete for the most talented young people in the country who are captivated by this exciting discipline,” said Thomas C. Skalak, chairman of the biomedical engineering department, which is a joint program of U.Va.’s School of Medicine and the School of Engineering and Applied Science.

The department of biomedical engineering is ranked among the top 20 programs in the country, according to U.S. News & World Report ratings. The discipline comprises more than 80 programs in the United States and about 200 in Europe.

U.Va.’s program has benefited from strong administrative support from the deans of U.Va.’s engineering and medical schools, and through funding from the Whitaker Foundation, according to William F. Walker, associate professor and undergraduate program director for the department.

In 1998, the foundation gave two grants to U.Va., a $3 million development grant to strengthen the program and a $7.5 million grant toward the construction of a biomedical and medical sciences building. The development grant has been used to hire and equip labs for four new biomedical engineering faculty members. And completion of the building, MR-5, in 2002 enabled the department to move into a world-class building with new teaching labs.

The department has added about a dozen new courses to the curriculum in the past five years, creating a program designed to teach students how to integrate the quantitative skills needed by engineers with the understanding of biology, chemistry and physics needed by medical researchers.

There are currently about 280 Engineering School undergraduates who have declared minors in biomedical engineering. “We get some of the best and brightest students in the nation,” Walker said. “They are ambitious and they will inevitably develop into more than just in-the-trenches engineers. Many will become technical leaders or move into management as their careers develop. This new interdisciplinary major gives them the tools they need to succeed throughout their careers.”

Engineering Business Minor

Engineering students are now able to pursue an engineering business minor. The new minor provides students with the opportunity to learn how modern business organizations function and to acquire some of the skills they will need to be effective in the corporate world of commerce. The curriculum involves coursework in economics, finance, new-product development and other related disciplines, with students taking classes in both the Engineering School and the McIntire School of Commerce. This new minor complements a growing number of minors available to undergraduate engineers, including the history of technology and science, as well as technology management and policy (TMP).

This important new program in engineering business was made possible through the leadership and generosity of Dan T. Montgomery (’73, ’77) and William P. Utt (’79, ’80, ’84). Montgomery, president of The Clark Construction Group, committed a $1 million gift to endow the Robert and Ashley Montgomery Engineering Business Minor in honor of his parents. Utt’s gift of $50,000 provided vital funds to develop and launch the program.
Engineering In Context

The EIC approach to ENGR162 introduces students to engineering design in the context of team-driven solutions to problems of significance to society or the local community.

The Oncoming Train Alert System team is working to develop a technology to alert railroad maintenance workers of oncoming trains. Group members include Sarah Cary (CS), Lin Lin Htay (EE, SysE minor), Travis Markley (EE), and Erik Haglund (ME). The team hopes to develop a functioning prototype that proves the potential of the technology. Ongoing discussions with the railroad industry may provide R&D funding to further develop this technology over the next several months to one year.

The group members underscore the value of industry contact, saying, “The real-world exposure and experience of developing a technology is an invaluable addition to our educations. This project has exposed us to the social dynamics of engineering that are all too often overlooked in the textbooks.”

The Wheelchair Translation Project group was confronted with a real-life problem here on Grounds this past fall: how to design a device allowing wheelchair users to navigate up and down stairs while avoiding the use of ramps. In team fashion, students from the pilot classes taught by Professors Elzey and Fitzgerald designed, built and tested two separate wheelchair translation systems to solve the problem. If you would like to learn more about what a team of active first-year undergraduates did with a little creativity and $400, go to http://faculty.virginia.edu/Nanoscale_Laser_Processing/ENGR162X03/.

TCC Changes Name and Becomes a Department

The Division of Technology, Culture and Communications has changed its name to the Department of Science, Technology and Society (STS). With this name change, the department becomes part of a new field of study; already there are STS programs at such universities as Cornell, Michigan, MIT and Stanford.

The department will continue to advance understanding of the social and ethical dimensions of science and technology and to promote students’ communications skills, their moral imaginations, and their understanding of the social foundations of technology.

Host An Extern

Do you want to give back to the U.Va. community and enrich your company at the same time? Consider hosting a U.Va. extern for a job-shadowing opportunity over the student’s winter, spring or summer break. Externships are volunteer experiences in which the student can shadow a professional for a day, a few days or a week. This gives the student a chance to explore a career interest in a realistic environment, outside of the classroom, as well as a chance for the employer to prescreen students for possible internship or job opportunities.

NASA-Langley Research Center, Whiting-Turner Contracting Co., Booz-Allen Hamilton, Merrill Lynch, StrataSys Group LLC, Naval Research Laboratory, Virginia Geotechnical Services and Science Applications International Corp. are just a few of the firms that participate in the extern program. Many alumni participate in the program as sponsors because they themselves benefited from the extern program as students. Many alumni also see the program as a great way to learn from today’s students, and possibly recruit future employees.

If you are interested in getting involved with the Extern Program, please visit the URL http://www.virginia.edu/career/employers/extern_info_employers.html and fill out the extern request form, or contact the extern coordinator at 434.924.4331.
THINK BACK TO YOUR LAST YEAR IN THE Engineering School when you wrote your undergraduate thesis. As you take the short stroll down memory lane, be sure to thank William Mynn Thornton for the experience. Virginia’s leading engineering professor for 55 years, he assigned the “Graduating Thesis” shortly after becoming the school’s first dean 100 years ago.

In order to help Virginia engineers acquire the skills they would need to be successful practitioners, Thornton assigned a major research and writing project as a requirement for graduation. He personally reviewed every project submitted during his 21 years as dean.

A century later, the thesis remains a graduation requirement—and the capstone of the University’s engineering experience—for each and every undergraduate student.

“Through the thesis, our undergraduates have an experience other schools offer only to graduate students,” says Dean Richard W. Miksad. “Alumni remember the experience as the most valuable they had in the Engineering School.”

Students begin preparing for the thesis challenge practically from the first day they enter the Engineering School. In addition to gaining technical skills in their chosen area of emphasis, they take courses through the School’s Department of Science, Technology and Society (STS), formerly called the Division of Technology, Culture and Communication (TCC). Established in 1932 and still the only engineering school-based humanities and social science department in the nation, TCC offers courses designed to develop students’ critical thought, self-reflection, teamwork, and communication skills.

The courses also encourage students to examine the social and ethical implications of their research. “We teach students about the interface between technology and society,” says Ingrid Townsend, a 30-year veteran and past chair of the department.

“We help our students manage an incredible amount of complex information,” says Kathryn Neeley, an associate professor who has been teaching in the department for 20 years. She and her broadly interdisciplinary STS colleagues lead students through two required courses—“Western Technology and Cultures” and “The Engineer, Ethics and Society”—and encourage students to begin exploring possible thesis topics by the time they reach their third year in the School. Meanwhile, technical faculty members are always ready to comment on student project ideas or to suggest new ones.

Students accepted into the School’s Washington, D.C., internship program often identify ideas for thesis projects while working in policy-making offices on Capitol Hill. Fourth-year electrical engineering student Ahson Wardak researched the potential impact of federal regulations on the burgeoning field of nanotechnology while interning last summer in the Woodrow Wilson International Center for Scholars. Nanotechnology is the creation and utilization of materials, devices and systems at an exceedingly minute scale: one nanometer approximates the size of three atoms. “At the end of the internship I wrote a paper that I’m using as the starting point for my thesis,” says Wardak, who is working with Michael Gorman, an STS professor with a joint appointment in the department of systems and information engineering, to identify ways in which nanometric materials could potentially affect the environment and consumer products.

Wardak believes his relationship with Gorman will
result in a better thesis. “Knowing that we share an emotional investment in my project motivates me to do a great job,” he says.

Amy Throckmorton (ChE ’98) fondly recalls her undergraduate thesis project, the development of a theoretical feedback control system for an artificial heart pump to help adult heart-failure patients. During two years as a chemical engineer, she drew upon her thesis experience every time she wrote a proposal or made a presentation. In 2000, she returned to U.Va. to pursue a doctorate in biomedical engineering. She is currently working with her former technical advisor, Wade Professor of Engineering Paul Allaire, to design and develop an artificial heart pump for infants and children.

Like Wardak and Throckmorton, all Engineering School undergraduates manage their thesis projects from beginning to end. In addition to forming important mentor relationships with their technical advisor, they also work with an STS advisor who reviews their work and helps them develop an oral presentation based on their research.

But an STS advisor often does more. “Under the guidance of Patricia Click, the courses and thesis project shaped my strong values regarding ethics and engineering,” Throckmorton says. “For example, I believe we have a duty to ensure that our creations cause no harm.”

Student theses have changed a great deal over the years, according to David Morris, a former undergraduate dean who recently retired as a professor of civil engineering after 37 years on the faculty. “As the faculty have become more oriented toward technology and research, so have the students. We’ve always had extraordinary students, but now some of their theses easily constitute master’s-level work.”

In an effort to showcase this high-quality research, the Engineering School introduced its Undergraduate Research and Design Symposium more than a decade ago. Each year, members of the graduating class submit their theses to a panel of Engineering School faculty who select a number to be presented during the symposium. Students present their projects to an audience of faculty, students, families and friends. Engineering professionals judge the presentations and present the winners with cash awards and plaques. Prize-winning theses reflect the wide-ranging academic interests of the School’s engineering undergraduates.

These days, the thesis requirement is viewed as one of the Engineering School’s most venerable traditions. However, it is still perceived—in locations beyond the University Grounds—as a concept ahead of its time. The project meets a requirement recently instituted by the Accreditation Board for Engineering and Technology Inc., stipulating that students in accredited programs complete a major design project. The project must incorporate realistic economic, environmental and ethical constraints, among others.

So, Virginia’s undergraduate thesis project moves into its second century essentially unchanged. As ever, the experience offers much to celebrate. As Dean Miksad says, “Our students arrive here with a strong sense of individualism. Through the thesis project, they direct this strength to a topic of personal and intellectual interest, learning leadership skills that will serve them well in the world in which engineers do their work.”

Emily Quann, second-place winner, Undergraduate Research and Design Symposium, 2002, with STS advisor Professor Ingrid H. Townsend.


WITH A BOOMING VOICE, A READY LAUGH, A sharp wit, and a deep commitment to the field of engineering education, Richard W. Miksad has been a force to be reckoned with in his decade as dean of the Engineering School.

When Miksad arrived at the University of Virginia in 1994, he had an ambitious vision for the School: to make the School a more productive and vital member of the University community, establish international levels of excellence in selected areas, encourage and foster collaboration between departments and between schools, and continue to nurture the research and teaching environment he found here.

When Miksad steps down as dean on August 24, he will leave the Engineering School a better place in many ways.

From the first, Miksad worked to infuse the School with a stronger sense of mission and unity, while encouraging a culture of interdisciplinary collaboration. He strengthened the School’s shift toward a stronger research culture and encouraged faculty to be more aggressive and entrepreneurial in seeking
out new research opportunities and sources of funding. He supported efforts to infuse classroom teaching with the excitement of laboratory research—particularly for undergraduate students. And he worked tirelessly to improve the School’s environment for women faculty and for junior faculty.

His successful efforts have been felt beyond the School walls.

“In his 10 years as dean, Miksad has worked with great energy and vision to strengthen the research program at the Engineering School,” said John T. Casteen III, U.Va. president. “His efforts are reflected in successes in biomedical engineering, in the construction of research buildings, in increased support for junior faculty, enhanced industry contacts and in fund raising. Dean Miksad has made a crucial difference here and has added immeasurably to the reputation of the University.”

The strength of the School’s research enterprise clearly has grown under his leadership.

“Dick is a visionary champion who has enabled nascent research to come to fruition, especially large-scale, interdisciplinary collaborations,” said Thomas C. Skalak, chairman of the department of biomedical engineering.

Robert M. Carey, professor of endocrinology and former dean of the School of Medicine, agrees. “The Engineering School and the School of Medicine worked together to build the program in biomedical engineering, which was one of the most important collaborative efforts of the School of Medicine,” he said. “Dick Miksad was a joy to work with.”

Miksad launched a strategic planning process, now in its second round, and a move toward breaking down disciplinary boundaries to encourage cross-disciplinary collaboration. “We now have a much larger research effort that is building on our disciplinary strengths and four innovative clusters—nanotechnology, computer and information science, societal and environmental systems and bioengineering,” Skalak said.

With increased research came increased demands on infrastructure. And so, under Miksdad’s leadership, the School raised funds for two new buildings. MR5, a biomedical engineering and biomedical science building, was completed in 2002. Wilsdorf Hall, a building for researchers in materials science, chemical engineering and nanotechnology, will be completed in 2005. These buildings are in support of identified Virginia 2020 University priorities. Fund raising has already begun for an information technology building and a bioengineering building that will serve both the Engineering School and the University.

Miksad has been an effective leader in the School’s overall development efforts. “Since taking over, Dick expanded the Virginia Engineering Foundation into a fully staffed development office and raised the priority of fund raising throughout the School, so that today we are raising $1 million a year via the Annual Fund, in addition to some $11 million a year in Major Gifts,” said J. Howard Todd, president of the board of directors of the Virginia Engineering Foundation.

Miksad worked to enhance the student experience, as well. He worked with faculty to redesign the
curriculum to offer more flexibility and supported the creation of a new undergraduate major in computer engineering, allowing students to blend training in hardware and software, said Joanne B. Dugan, professor of electrical and computer engineering. He likewise supported the development of a new undergraduate degree in biomedical engineering, which should help the department attract more top students interested in the field, Skalak said.

And he put forward his personal goal to educate a generation of engineers who understand how science and technology policy is made and who know how to lead and influence the development and application of those policies. In summer 2002, Miksad launched the Science and Technology Policy Washington (D.C.) Internship Program, the only such program in the country specifically designed for engineering students. Students participate in an eight-week summer internship program and have found positions in congressional offices, the White House, and in government agencies where they provided engineering and scientific insight regarding policy issues.

Miksad also worked with female faculty members to develop a family-leave policy that would not penalize tenure-track women in their childbearing years for having children. “The policy was groundbreaking for U.Va. and has definitely had an impact on the recruitment, retention and morale of female faculty,” Dugan said. Another significant Miksad contribution was the creation of an Engineering School Faculty Fellows program to recognize and support outstanding junior faculty.

The Engineering School of today—a multicultural environment where women and men, tenured faculty, young faculty and graduate students work together on cutting-edge research—is a testament to Miksad’s success. “My goal in coming here was to take a good engineering school that was in transition at an excellent university and make it a world-class institution,” Miksad said. “I wanted to put into practice my belief that you build a great operation by focusing on people. My accomplishments, my success in doing what I have done, are due in large measure to the excellent faculty and staff we have in this School. I am thankful to all of them.”

Miksad will focus on teaching and research when he steps down in the fall. Those who don’t find him in the classroom or lab might well find him on a tractor on his land, moving mountains, sculpting the land, and creating a place where things can grow. Similar work, different place and all in keeping with the man he is.
The Virginia Engineering Foundation celebrated its 50th anniversary at the Thornton Society Dinner in October. A large gathering of alums attended, including six past presidents of the foundation. Pictured left to right are: J. Howard Todd ('60), Howard P. Wilkinson ('71), Laura Montgomery ('76), Richard L. Ramsey ('76), Robert A. Moore Jr. ('59), Lucien L. Bass III ('63).

Virginia Engineering Foundation Awards, 2003

Loria B. Yeadon (EE ’85) received the 2003 Distinguished Alumni Award at the Thornton Society Dinner in October.

Following her graduation with distinction in 1985, Yeadon went to work for Bellcore, continued her education at Georgia Tech, graduating in 1986, and later received her Juris Doctor, magna cum laude, from Seton Hall in 1994.

She was senior counsel at Bellcore prior to becoming assistant general counsel at Honeywell International in 1999. She was later named chief executive officer of Honeywell Intellectual Property.

As CEO, she supervises eight licensing vice presidents and directors, three intellectual property litigation counselors/managers and administrative staff, and oversees licensing organizations within strategic business groups comprising approximately 100 engineers, technologists and business-development professionals. She is responsible for protection of a portfolio of over 12,000 issued patents.

Other award winners were Professor Yacov Y. Haimes, Distinguished Faculty Award; Professor James Groves, Outstanding Young Engineering Graduate Award; and retired IBM executive Michael H. Van Vranken, Distinguished Service Award.

Peyton “Chip” Owen Jr. (ME ’79, Darden ’84) was named chief operating officer for Equity Office Properties. He will be responsible for regional operations and functional areas such as leasing, marketing and real estate services, including procurement. “Chip is an excellent addition to our team,” commented Richard D. Kincaid, Equity Office’s president and chief executive officer. “His real estate experience and corporate management skills will complement our existing in-house expertise. He is a seasoned office industry professional who has a track record of empowering his teams to achieve strong performance.” Owen is a member of the Virginia Engineering Foundation.

Michael Russell (CE ’87) was named chief executive officer of H. J. Russell & Co., the largest minority firm in Atlanta. The company employs nearly 700 people nationwide, and has operations in Atlanta; Baltimore; Birmingham, Ala.; Chattanooga, Tenn.; Chicago; Dallas; Miami; New York City; Newark, N. J.; Phoenix, Ariz.; St. Louis; and Tampa, Fla.
1940s

Thomas P. Hughes (ME ’47, Grad ’53) was elected to the American Philosophical Society, the country’s oldest learned society. He is a professor emeritus of history and sociology of science at the University of Pennsylvania, and a distinguished visiting professor at the Massachusetts Institute of Technology.

1960s

Archie Fripp (MSE ’69, ’74) wrote a textbook titled Just-in-Time Math with his sons, Jon and Michael Fripp.

1970s

Jerry Tuttle (Applied Math ’74) published a short story titled “1+1=0,” which is available online at http://users.aol.com/fcas/oneplusone.html. He is an actuary with Platinum Underwriters Reinsurance in New York City.

William “Bill” Hall (ME ’75) is executive vice president of fossil/hydro generation for Duke Energy in Charlotte, N.C.

Robert E. Lindberg Jr. (Engr Physics, ’76) was named the first president of the Hampton, (Va.)-based National Institute of Aerospace, a private, nonprofit research institute comprised of a consortium of universities and the American Institute of Aeronautics and Astronautics Foundation. U.Va. is one of the consortium members.

1980s

Hany Eldeib (SE ’80, ’86) is director of network planning at Intelsat in Washington, D.C.

John C. McKenney (EE ‘80) and Lori Jones McKenney (EE ’82) are celebrating the 15th anniversary of SEC Associates Inc., a company they founded in 1988. Their firm provides regulatory compliance consulting and computer validation services for FDA-regulated companies.


Jesse A. Reid Jr. (SE ’86) is a portfolio manager with Bank of Tokyo-Mitsubishi in New York City. He and his family reside in Glen Ridge, N.J.

Peter Stephen Thiringer (AE ’87) is a principal consultant for IBM.

1990s

Peter A. Dayton (EE ’90) is a manager of business operations at Yahoo! He and his wife reside in the San Francisco Bay area.

L. Roger Mason (Nuc. Engr. ’92, ’94) recently joined the Institute for Defense Analyses as director, where he leads efforts in information technology and net-centric warfare.

Todd D. Wood, P.E. (CE ’93) is the director of civil engineering at Valley Engineering Surveying Planning in Harrisonburg, Va.

Katie (Wales) Pegoraro (EE ’96) was married to Rob Pegoraro in June 2003, in Sonoma, Calif. The couple resides in Arlington, Va.

Christy Bixler (CE ’97) recently began a new position as project manager for the Water Environment Research Foundation, a not-for-profit organization that seeks to promote the development and application of sound science to water-quality issues. She and Dr. Erik Lucas plan to marry in June 2004.


Stefan Duma (MAE ’00) is part of a Virginia Tech team researching body collisions and the physics of safety equipment. The team is tracking Tech’s junior varsity football team to measure how much trauma the brain experiences. His research team measures every hit experienced by selected players wearing helmets fitted with the same kind of acceleration sensors that trigger air bags in cars. Duma hopes to determine a player’s chances of concussion after every hit and to improve assessment tools available to measure conditions after significant collisions happen in the course of a game.
in memoriam

Charles L. Brown (EE ’43) died in November 2003 at the age of 82. He was born in Richmond, Va., in 1921. Following his graduation from U.Va. in 1943, he entered the U.S. Navy, where he fought in WWII aboard the battleship U.S.S. Mississippi until his discharge in 1946.

He had a long professional life with AT&T, progressing rapidly through a series of managerial positions, becoming vice president and general manager of Illinois Bell in 1963, and CEO six years later. He became executive vice president of AT&T in 1974, vice chairman of the board and chief financial officer in 1976, president of AT&T in 1976, and chairman of the board in 1979.

He served on the board of directors of many corporations, including Delta Airlines, Chemical Bank, General Foods, and Metropolitan Life, and on the board of the Public Broadcasting System and the Institute of Advanced Study. He was a trustee of the Aspen Institute and chairman of the board of the Colonial Williamsburg Foundation, as well as a member of the board of visitors at the University of Virginia and a trustee of the University of Chicago, Loyola University in Chicago, and Lake Forest College in Lake Forest, Ill.

He held honorary doctorates conferred by Colgate University, Princeton University, Amherst College, Northwestern University, and Pace University.

He married the former Ann Lee Saunders in 1959. In addition to his wife, he is survived by his son, Dr. Charles A. Brown, of Kona, Hawaii, and a grandson, Alexander Lee Brown, of Bakersfield, Calif.

1940s
Howard T. Davis (EE ’44) of Palatine, Ill., died in September 2003.
Bruce B. White (ME ’49) of Spartanburg, S.C., died in July 2003. He was president of Fiber and Yarn Associates and was a member of Theta Tau engineering fraternity and Sigma Phi Epsilon fraternity.

1950s
Robert A. Gere (ChE ’52) of Charlottesville died in October 2003. He worked for Quaker Chemical Corp. in Conshohocken, Pa.
James F. Wells (Engr. Undeclared ’56) of Charlottesville died in September 2003. He was head salesman and head of foreign accounts for ITT. He founded his own company, ALTA Inc., in Atlanta.

Beverly R. Crannis (Eng. ’59) of Charlottesville, Va., died in March 2003.
Lt. Colonel Matthew Flessner (CS ’59) of Farnham, Va., died in October.
Sherwood C. Reed (CE ’59) of Norwich, Vt., died in September 2003. He was a research engineer at the Cold Regions Research and Engineering Laboratory in Hanover, N.H. He wrote several textbooks and numerous U.S. Environmental Protection Agency process design manuals. He served as a consultant to the United Nations and the World Health Organization in Egypt.

1970s
J. Bryan Wibberley (CE ’78) of Charlottesville died in October 2003. He was a director and partner of Dunbar, Milby, Williams, Pittman and Vaughan.

1980s
Matthew J. Anderson (SE ’89) of Fairfax, Va., died in November 2003. He was a partner with Accenture LLP. As a student, Mr. Anderson was a Lawn resident, a member of the University Guide Service and was actively involved in numerous intramural sports.

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WHILE I WAS DRIVING SOUTH ON HIGHWAY 29 past the University last year, a co-worker who was new to NASA called my cell phone and asked, “What does it mean when the shuttle is late?” The countdown clock at Cape Canaveral had reversed direction and started counting upward. The crowd in Florida anxiously awaited the welcoming sonic boom announcing the arrival of the space shuttle Columbia. The boom never came. One year later we are memorializing our fallen friends, family members and heroes.

For almost 15 years I have been involved with the space program, thanks to the Engineering School at the University of Virginia. Former engineering professor Glenn Stoner invited me to assist him with electrochemistry research while I was still pursuing dreams of a career as a wide receiver with the Dallas Cowboys. I was able to take graduate courses in materials science via videotape while catching footballs by day for Tom Landry’s America’s Team. Eventually an injury derailed my gridiron goals, but a welcoming faculty at Virginia brought me back into the classroom and returned me to the engineering track.

As an engineer, I worked for nine years at NASA Langley Research Center before receiving the call to join a different “America’s Team”—the Astronaut Corps. Throughout my career I have utilized engineering principals to apply health-monitoring smart sensors to aerospace vehicles, helping to ensure a safe and cost-effective operation. Currently, I serve at NASA Johnson Space Center in the Robotics Branch, which is intimately involved with the shuttle “Return to Flight” efforts. The shuttle robotic arm will be used with a sensor suite to help ensure that the shuttle’s thermal protection systems are not compromised in future flights.

Engineering is about more than building, designing and synthesizing. It is about making life more productive and safer for humankind. Our nation has paused to redefine its space policy in the wake of the Columbia tragedy. I was in Washington, D.C., when President Bush announced our new space vision to return humans to the moon, with future explorations to Mars. As engineers, it is our duty to make certain that the next generation of explorers is well equipped with the tools necessary to meet this challenge.

These young minds that we inspire now will follow in the unprecedented tracks made on the Martian surface by NASA rovers Spirit and Opportunity. With SPIRIT and OPPORTUNITY, we can do anything!

—NASA ASTRONAUT LELAND MELVIN (MS Mat. Sci. ’90)

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