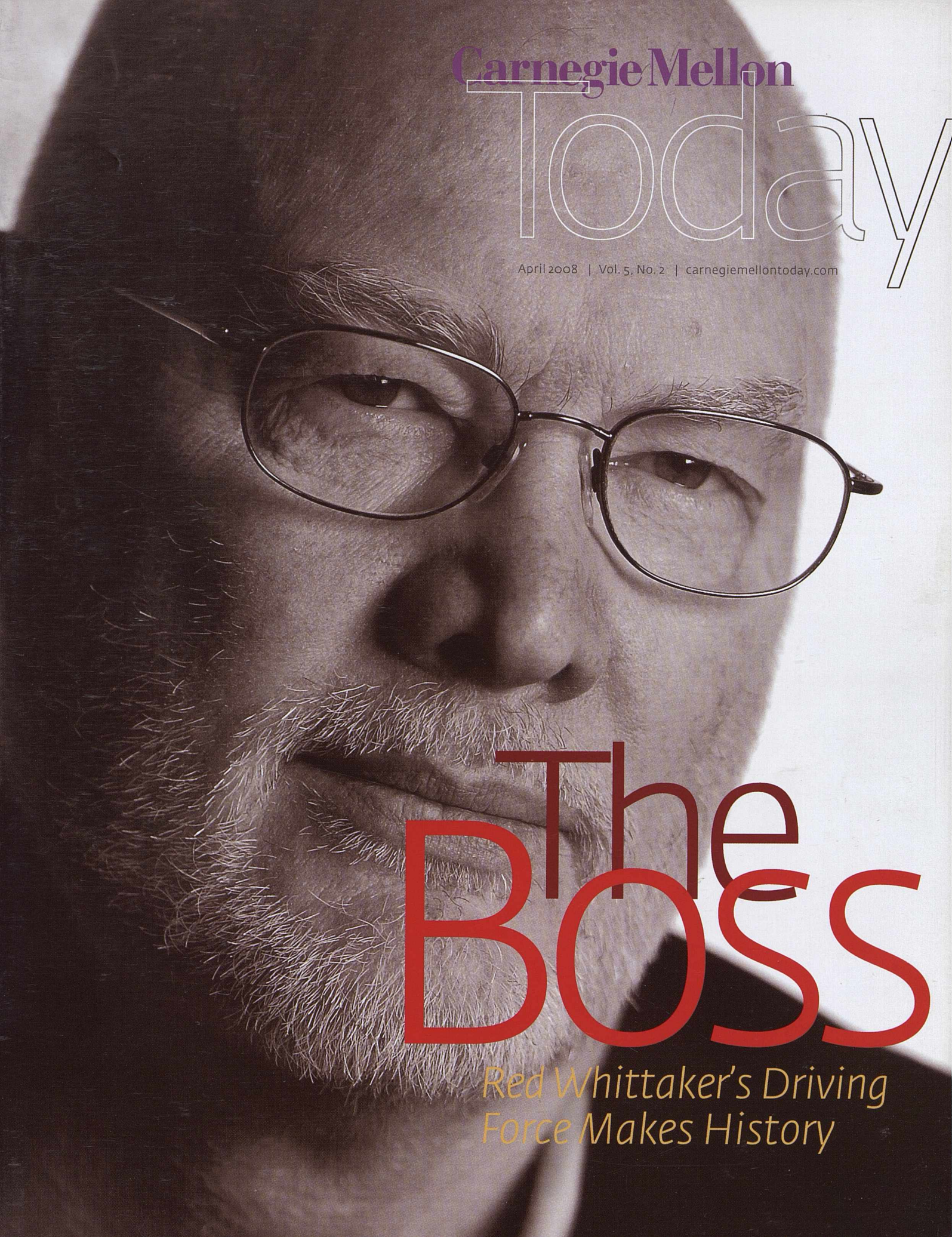


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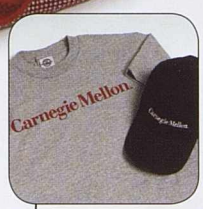
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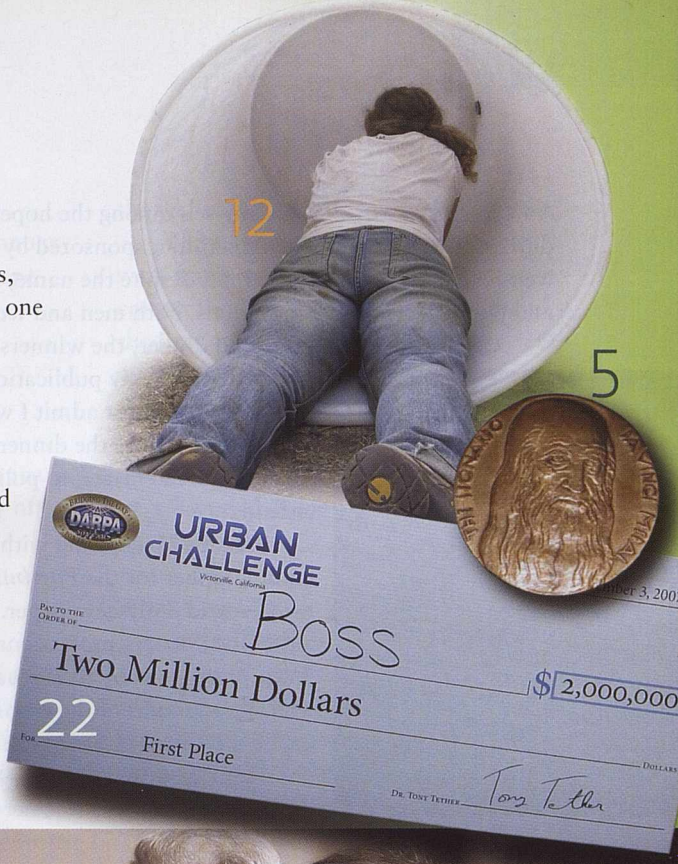
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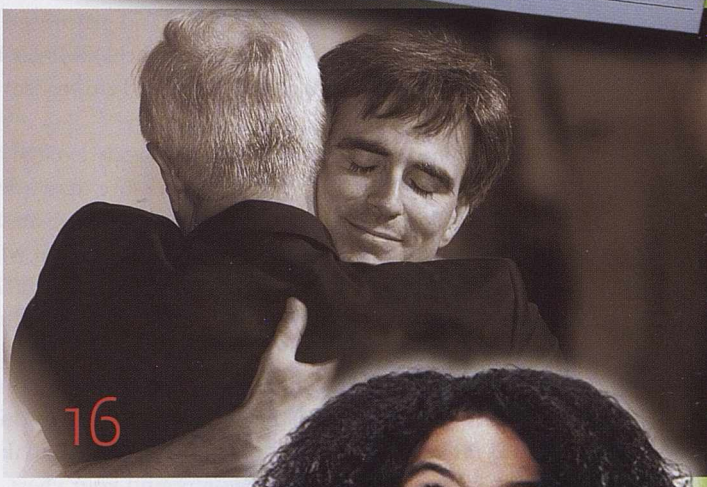
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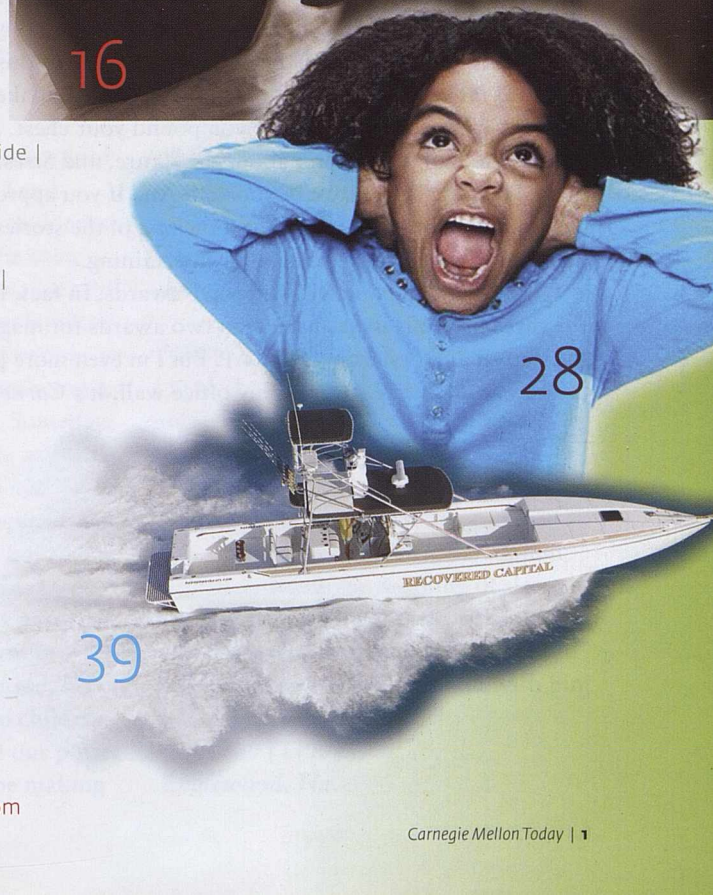
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A FEW YEARS AGO, I found myself among the hopefuls at my first media awards dinner. It was a regional competition, sponsored by Women in Communications, a well-respected organization that, despite the name, included the area's top journalists and public relations professionals, both men and women.

After the cocktail hour and dinner, the winners in a variety of categories would be announced. My publication was a finalist for several awards, and I must admit I was anxious as I nursed a glass of red wine before the dinner began. Not wanting to be antisocial, I forced myself to politely mingle with the others in attendance.



I ended up chatting with Martha Rial, who was a staff photographer for the *Pittsburgh Post-Gazette*, the area's most widely read daily newspaper. Martha was more than just another local media professional. In 1998, she won perhaps the most prestigious of all journalism awards—the Pulitzer Prize. Her photographs of the ethnic conflict in central Africa garnered a Pulitzer in Spot News Photography.

After mentioning to her that I admired her work, I sheepishly admitted that I was nervous about the outcome of the evening's awards ceremony. She smiled and proceeded to put things in perspective for me. It turns out that the year she won the Pulitzer Prize, she had also entered the same photograph series in a local contest. Prior to learning that she won a Pulitzer, she received an Honorable Mention locally.

Since that conversation, I don't get overly excited about awards. Sure, they're nice, and my magazine teams have won more than a few, including that evening I talked with Martha. But awards aren't what motivate me as a magazine editor. My ultimate objective could be found on my office wall within days of my arrival at Carnegie Mellon last winter. I hung up the covers of *The New Yorker, Harper's, Atlantic Monthly, Vanity Fair, Esquire*, and another half-dozen magazines that value good journalism. I wanted stories in *Carnegie Mellon Today* to be that good.

I imagine that some of my new colleagues probably thought I was a bit eccentric if not outright delusional. Well, I think the work of this issue's writers has vindicated my wall. *It's a Wonderful Life* (pages 16–19) will make you cry. *No Hands on the Wheel* (pages 22–26) will make you pound your chest. *Sunny Disposition* (pages 12–15) will make you think about the future, and *Stressed Out* (pages 28–31) will make you take better care of yourself. And if you appreciate those features as much as I do, I believe that you will find the rest of the stories, large and small, to be just as inspiring, thought-provoking, and entertaining.

I suspect this issue will win some awards. In fact, I'm pleased to announce that the three previous issues have won two awards for magazines: one from PRSA—Pittsburgh and one from CUPRAP. But I'm even more pleased to announce that there is another magazine cover on my office wall. It's *Carnegie Mellon Today*.

—Robert Mendelson
Executive Editor

Carnegie Mellon Today

Connecting the Global University Community—Alumni, Faculty, Staff, Students, Parents, and Friends

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Current Awards

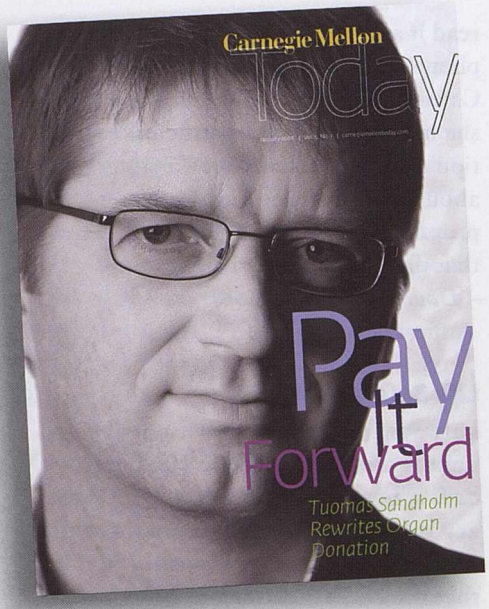
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Harry 'n Company

Thanks for another fine edition [January issue]. The Harry Potter feature, especially, was first rate.

—*Jack G. Shaheen (A'57)*
Hilton Head, S.C.

Payment Plans

Best issue ever; *Pay It Forward* [January cover story] was a wonderful story of courage and technology.

—*Bob Dingle (TPR'75,'76)*
Altadena, Calif.

I enjoyed reading [*Pay it Forward*] and Professor Sandholm's important contributions to the field of organ donation through the development of complex algorithms. I believe that his work is an important development that will increase kidney donations. However, I also believe that without lifting restrictions on monetary compensation for donations, the shortage of donors will continue. Bans on compensation for organ donation are essentially based on the anti-American principle of citizens being the property of the state; for if people are truly sovereign over themselves, they should be able to sell their kidneys (or any other parts of their bodies).

—*Amesh A. Adalja, MD (TPR'95)*
Butler, Pa.

I was very interested and grateful to read [in *Pay it Forward*] of Tuomas Sandholm's work to match live kidney donors.

I am certain that in time the same algorithms will be applied to live liver donors. Right now, there are a few hundred live liver donations each year. The liver is the only organ that can completely regenerate itself within a few weeks. Someday, live liver donations may become as commonplace as live kidney donations.

Unfortunately, 15% of people on the liver waiting list die each year. Improving the likelihood of receiving organs saves lives. My husband and business partner, Mihai, received a liver transplant in 2000. Without the liver he received, he wouldn't be here today, my two children would be without a father, and our power electronics business wouldn't be making the technological contributions that it is.

There are many, many sick people waiting for organs. You can't possibly convey in writing what it's like to attend the liver clinic regularly or visit the liver ward at a hospital and see the very sick people who need an organ. Kudos to Tuomas Sandholm and his team.

Please be an organ donor.

—*Catherine A. Chis (TPR'93)*
Harmony, Pa.

What a nice article [*Pay it Forward*]. My brother is a heart transplant recipient, and, through experience, we know it would have been easier to find his match this way. It's very nice to know we have people capable of writing the software to do the math, as well as people capable of giving in such an unselfish way.

— *Carol K. Lampe (MM'67)*
Pittsburgh

This story really touches my heart. It is wonderful to hear that healthy individuals have compassion for those who are born with a disease that they have no control over. My son was born with a polycystic kidney disease and was diagnosed as a Type 1 diabetic at age four. The gratitude I have towards doctors and scientists is immeasurable. Stories like this help me rest knowing that when my son reaches kidney failure, there are people ready to help if I cannot give him my kidney. I will be ready to pay it forward as well.

—*K. Hansen*
carnegiemellontoday.com comment

Yawn

I read about Arshad Chowdhury's EnergyPods [spotlighted in *Sleeping on the Job*] when they were introduced, and I thought, "Nice! No more schlepping through the snow to my car to take a lunchtime nap!" Tepper alumni intimately know the meaning of sleep deprivation, so I wasn't surprised to learn that the inventor survived the program! I congratulate Chowdhury and wish him much success.

—*Jill Leah (TPR'95)*
Englewood, Fla.

The Not-So-Great Divide

I applaud Lauren Mendelson's accomplishment in gaining entrance to the university of her choice [*The First Word* September issue] just as I applaud all the applicants who gained entrance to Carnegie Mellon University. Their parents are to be applauded as well for giving their children the confidence to achieve such merit. With three children who received similar entrée to higher education and subsequent advanced degrees, I now enjoy the career trajectory of each. As a parent, I've felt the same pride and satisfaction that is felt by Lauren's parents and the parents of incoming Carnegie Mellon students.

I am troubled, however, by the universe into which these young people must move to pursue post-high school opportunities. Opportunities for children born into families well endowed with wisdom, vision, wherewithal, and resolve undoubtedly are reasonably well served. But that may also depict one-half of a divide that is widening. Now, a host of American residents, a mix of dispossessed citizens, is only marginally served by existing socializing, assimilating processes, whereas the other portion of American, including Carnegie Mellon students, race to seemingly unending opportunities.

—Lester F. Jipp (HS'72)
Bangkok, Thailand

Phoning It In

I am pleased to report that the new issue comes across well (even the illustrations) on the "smart phone" that I recently purchased. I was able to read several of the articles and letters to the editor without even moving from the couch.

As Fermilab's first Webmaster (long ago in 1995), I know it takes extra effort to author communications so that they work well in print and on all sorts of devices—not just "dumb PCs." It befits Carnegie Mellon that its publications, such as *Carnegie Mellon Today*, are on the leading edge doing that.

I particularly enjoyed the January issue's article about former arts student, Michael Goldenberg [*Harry Potter and the Order of Michael Goldenberg*]. I read it and forwarded it (all on the phone) to the mom of a prospective Carnegie Mellon theater major so that she might have some specific information to put in front of her daughter about the university's great theater program. I got an email of thanks later that day!

— David J. Ritchie (S'66)
Naperville, Ill.

Life Before Elvis

I always enjoy reading (but not always understanding) *Carnegie Mellon Today*. When I got to page 34 of the January issue, which is the beginning of the *From the Classes* department, I noticed that the earliest class note was 1956. I wondered what has happened to all us antiquated pre-'56 graduates. There must be a few of us left.

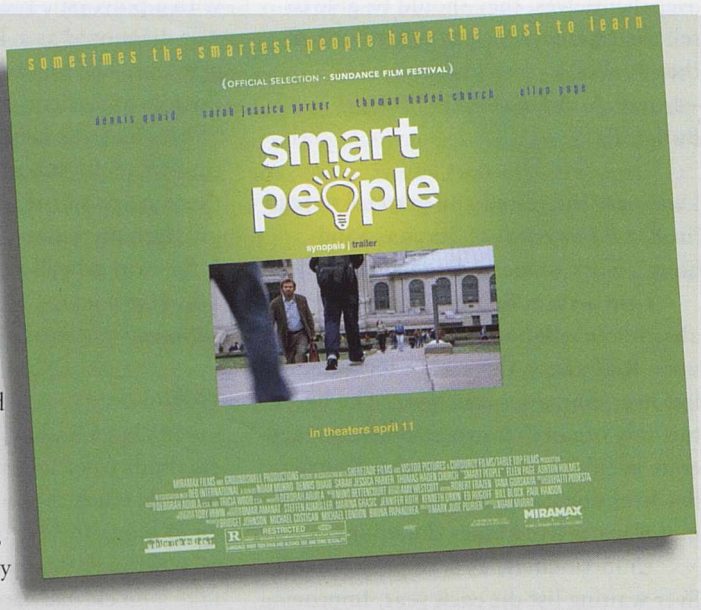
Four years ago, I returned to Carnegie Mellon for my 50th class reunion. While wandering through Porter Hall, I saw a young woman and a young man working on their computers. I asked the young woman, "Do you know what a slide rule is?" She looked very puzzled and said, "A what?" and looked at the young man. He said, "It was some kind of a thing that you could do math calculations on." I just wandered on—trying not to fall.

Another 50 years from now, the current students will be asking, "What is a computer?" But one thing that has and will remain constant is the Carnegie Mellon method of instruction. We were taught the basic premises of our chosen disciplines and then how to think and apply. I have appreciated this greatly during my working career because seldom have I encountered the same problem twice. But by remembering the teaching of CIT's Dr. Mavis and his staff, I have been able to solve them.

Whenever I'm asked where I went to school, I proudly answer, "I graduated from Carnegie Mellon University!"

— Francis J. McDonald (E'54)
Midland, Texas

Now Playing...



We all know that there are a bunch of smart people on campus. Hollywood knows it, too. The motion picture *Smart People*, shot on campus in 2006, is released nationally this month (April). The movie stars Dennis Quaid as a Carnegie Mellon University professor who falls in love with a former student, played by Sarah Jessica Parker. The dark comedy reportedly received an enthusiastic response from audiences during its showing at the Sundance Film Festival earlier this year, but we'll leave the movie reviews to the film critics. As for the locale, though, it gets a perfect four stars from *Carnegie Mellon Today*.

Leonardo da Vinci

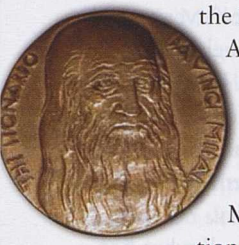
If the campus libraries were to dump the overfill for their history, engineering, and science sections into one room, it might look something like David Hounshell's office.

It is an ordered chaos. Moving boxes of materials aside to be able to navigate the room, the professor—trained in engineering and history—can show you that this third of this wall is devoted to the history of science. These three sagging shelves barely hold the Cold War histories. This section: R&D. Over here, a healthy assortment of biographies. And the entire expanse of the west wall is miscellaneous, purportedly alphabetized in some fashion, though the books have grown so thick that he's had to resort to double-shelving, one row in front of the other, to fit them all.

For a committed cross-disciplinarian interested above all else in studying the intersections of history, science, technology, and business, these are the tools of the trade.

Knowing that, if you're a random visitor closing the door behind you in a room likely not much more than 12 by 12, you might be able to overcome your claustrophobia and read some of the book titles. If you look closely, you may notice that more than a few of them are authored by him.

Hounshell's work—the agglomeration of all these varied books and fields—was recently honored by the Society for the History of Technology. At its 50th anniversary in Washington, D.C., it awarded Hounshell with its highest recognition, the Leonardo da Vinci Medal, for his contributions to the field.

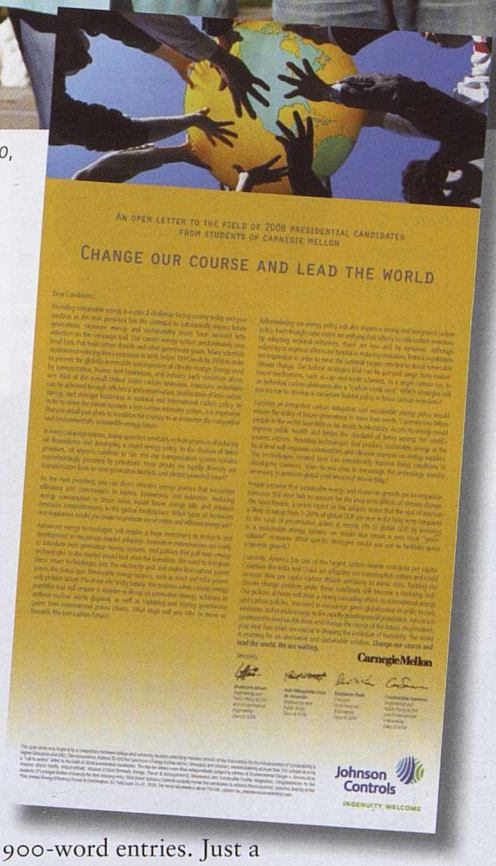


— BRADLEY A. PORTER (HS'08)

Dear Presidential Candidates

Students are scattered around the civil and environmental engineering lounge. Among them are four classmates with one focus: For a week, they've taken all their spare time to come here, to write.





▲ *The earthly winners (from left): Flath, Attari, Azevedo, and Samaras. Right: the 900-word manifesto.*

The document they slave over is no term paper, but an open letter to the 2008 presidential candidates, asking a question that impacts everyone, regardless of political affiliation: *Do they have a plan for improving energy policy and sustainability in the United States?*

Shahzeen Attari (PhD, E'09), Inês Lima Azevedo (PhD, E'09), Benjamin Flath (MS, E'08), and Constantine Samaras (PhD, E'08) drafted the letter for the TEAMS competition (Tomorrow's Energy Ambassadors, Managers, and Scholars), sponsored by Johnson Controls.

The teammates struggled to balance their research interests and opinions to form a singular message that would provoke a reaction, whether from the candidates or those who would read the winning letter published as a full page ad in *USA Today* by Johnson Controls.

They carefully considered each word, sometimes in meetings lasting hours. "We spent as much time together as you could in a week," says Flath.

More than 200 schools submitted 900-word entries. Just a week later, Azevedo glanced at an e-mail from David Dzombak, the faculty director of the Steinbrenner Institute for Education and Research, who organized the students for the contest. She stared in disbelief. Then she turned to Samaras, her officemate as well as teammate, and with surprised excitement declared, "We

won." They immediately called Attari, who was with Flath in the lounge where all four had spent many hours together.

Now the inspired students wait to see whether their published letter will change the course of the presidential election. *(Read the letter online at carnegiemellontoday.com)*

— MICHELLE BOVA (HS'07)

Move Over Nittany Lions and Panthers

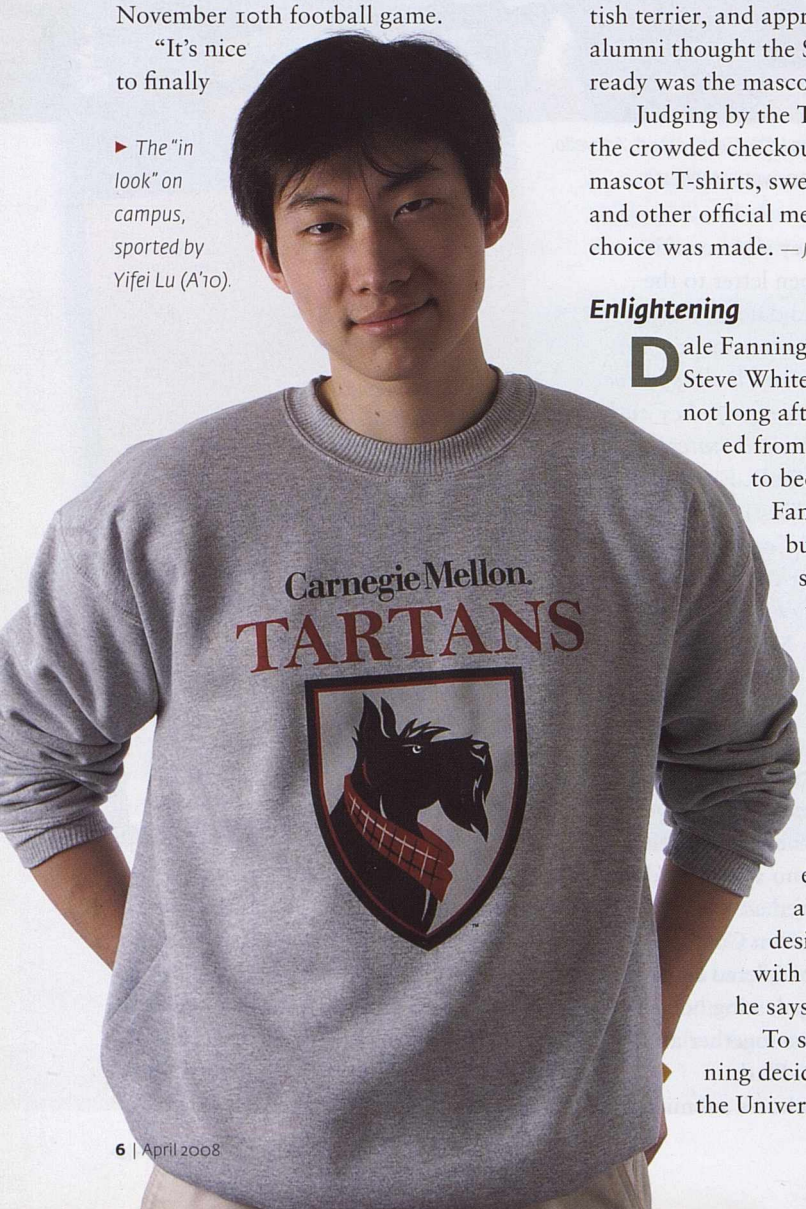
Before every winter break, the university bookstore braces for the onslaught of students frantic to find Carnegie Mellon gifts to take home to family and friends. Last December's rush seemed to be a good time to judge the popularity of the university's first official mascot—the Scottish terrier, unveiled at the Tartans' November 10th football game.

"It's nice to finally have a mascot that does not need to be explained," says one student, waiting in a checkout line to purchase the stuffed animal for her niece. "It always felt weird at sporting events to just be cheering for a fabric. Having a mascot that is an animated being makes sense."

"I think the Scottish terrier is a great choice," adds another student. "The Scottish terrier has a way of looking distinguished, dignified, and intelligent but also reminds me of the ferocious beast from *The Hound of the Baskervilles*, like it could snap your leg off any minute."

The students' approval is no surprise to the task force that was in charge of choosing a mascot. During the selection process, which included a university town hall meeting and surveys, nearly 78% of the students voted for the Scottish terrier, and approximately 25% of alumni thought the Scottish terrier already was the mascot.

Judging by the Tartan customers in the crowded checkout lines—clutching mascot T-shirts, sweatshirts, hats, mugs, and other official memorabilia—the right choice was made. — JENNIFER DAMICO (HS'07)



▶ *The "in look" on campus, sported by Yifei Lu (A'10).*

Enlightening

Dale Fanning's phone rang. It was Steve White. The two first met not long after Fanning graduated from high school. Hoping to become a set designer, Fanning was helping to build sets in regional summer stock. White was the theater's resident lighting designer. He helped the young carpenter secure a position as master electrician.

The master electrician developed a passion for lighting design. "I'm a sculptor with light and scenery," he says.

To study his craft, Fanning decided to go to college, the University of Wisconsin–Milwaukee, where White taught and would serve as Fanning's academic advisor. One sleep-deprived evening during his senior year, that phone call came.

"Dale, just so you know, I've backed out." White had been scheduled to work in Dublin as the lighting designer for the university's theater production, but a *mysterious* sudden emergency prompted the call. "I've put in your name to go in my place."

It was unheard of for an undergraduate to be involved in a high-profile international collaboration. After the Dublin "gift," when he says he felt like a "professional," Fanning knew his career direction was set.

The path led to graduate study at Carnegie Mellon's School of Drama, where Fanning was impressed with the university's technology integration. Since arriving, he has expanded his repertoire, intrigued by the subtle approach to architectural lighting design. "When done well," he says, "[lighting design] is the art of not being seen."

Fanning recently received national recognition for his work by winning the Jacob K. Javits Fellowship for graduate study in the arts, humanities, or social sciences. The U.S. Department of Education award is named for the late New York senator known for his support of the arts and education.

— MELISSA SILMORE (TPR'85)

The Hill Side

Gwendolyn Franklin needed some help. Her grades weren't very good, and she was feeling overwhelmed by the overall college experience. During her junior year at Carnegie Mellon she says she hit rock bottom and landed in Gloria Hill's office. At that moment, dropping out seemed a real possibility.

Franklin remembers well what happened next. "I found someone who was willing to sit in my pain with me," she says. Under Hill's guidance, she rebounded with an honor roll semester.

While Hill, the vice provost for education, acknowledges that she tries to "find ways to teach students how to harness their skills and abilities in order to meet the demands and expectations of a

Carnegie Mellon education," she downplays her impact with Franklin.

"Yes, I sat in Gwen's pain, but only temporarily, just long enough to get her attention, empower her to see her own strength and potential, and to redirect her energy towards doing what I knew, without question, she could do—succeed at Carnegie Mellon."

For that, Franklin (HS'95) says she will never forget her advisor. "This woman was the first in my life to nestle me in the warmth of unconditional acceptance, love, and encouragement."

Hill, for her career of student advising and mentorship, recently won the national Educational Leadership Award at the 2008 Black Engineer of the Year Awards Conference. —ELLEN AYOOB (A'98)



Money Grows on Trees

Srinath Sridhar studies trees—family trees, that is. But they're no garden-variety family trees with simple slots for mothers and fathers, grandmas and grandpas. They're phylogenetic trees—complex graphs that show the evolutionary relationships among biological species or other entities thought to have a common ancestor.

Sridhar, a recent graduate of Carnegie Mellon's computational biology PhD program, discovered new algorithms to help map out phylogenetic trees. By using the formulas to characterize and analyze single-nucleotide polymorphisms (single-base changes at one position on the human genome), Sridhar is helping to pave the way toward a better understanding of what causes evolutionary changes in DNA sequences in the first place and toward determining the genetic causes of disease.

Groundbreaking research like Sridhar's—as well as that of his computational biology peers—is getting a major boost, thanks to the largest private foundation grant in Carnegie Mellon's history. The Richard King Mellon Foundation recently established a life sciences competitiveness fund to support the "best and brightest" graduate students in the university's life sciences, such as Sridhar's field, computational biology, as well as medical robotics and biomedical engineering. The historic $25 million gift will support the hiring of faculty, construction of new labs, and creation of a Presidential Scholars Fund for the next generation of leaders in the life sciences.

—ELIZABETH MAY

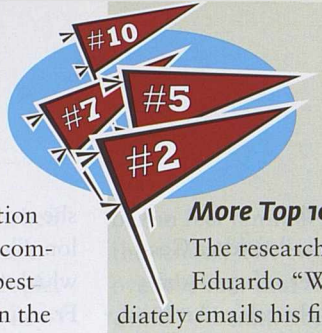
Chemical Cleanup

A small glass jar sits on the lab counter. A man in a white lab coat and safety goggles pours in a solution of sodium carbonate and sodium bicarbonate—materials found in everyday laundry detergent. Next he adds a tiny amount of a catalyst, known as a tetra-amido macrocyclic ligand (or Fe-TAML) activator. After tinting the solution a bright orange with a quick shot of dye, he adds hydrogen peroxide to the jar. Within two seconds, the water turns crystal clear. He squirts the dye in again; again, the water miraculously clears. He does it two more times. The Fe-TAML activator that's cleaning the water will stay active for at least 100 dye additions.

This simple demonstration shows, on a very basic level, how effectively Fe-TAML activators work. The brainchild of Carnegie Mellon's pioneering green chemistry guru, Terry Collins, Fe-TAML activators have wide-ranging applications, from decontaminating biological weapons, to cleaning the water we use to wash and drink, to reducing or eliminating toxic residue produced by major industries.

Collins, head of the University's Institute for Green Oxidation Chemistry, and his team are working to change the way we live by creating a cleaner and greener world. A sizable portion—$8.5 million—of a recent $22 million grant from the Heinz Endowments will help Collins and the institute transform the practice and curriculum of chemistry.

—ELIZABETH MAY



More Top 10 Lists

The research data are complete. Eduardo "Wayo" Dozal immediately emails his findings to a Carnegie Mellon colleague who could be sequestered anywhere. A chemical engineering graduate student, Dozal is used to navigating the wireless world for academic research.

"I work on projects that involve people from different engineering departments and even different colleges," explains the future Houston-based Shell Global Solutions engineer. "It's nice to login remotely to my office workstation from any point on campus and check on the status of things like simulation runs. Having wireless collaboration has made a huge impact on my productivity."

It has also helped earn the university an impressive ranking.

- #2: best campuses for wireless networking and ultra-high-speed connections to classrooms and online instruction—*Princeton Review*

Recent top 10 rankings among universities don't stop there:

- #5: best graduate business program —*The Wall Street Journal*
- #7: overall technology—*The London Times*
- #10: "coolest campus" for the environment—*Sierra Magazine*

Liam Bucci (E'08) found that rankings bring Carnegie Mellon significant cachet, especially when graduates have employment interviews. "They definitely knew about these rankings, and it made a difference when we talked salary," says Bucci, who this spring joined WET Design (Water Entertainment Technology) in Los Angeles as an engineering liaison.

Maciej "Mac" Golonka (TPR'08), a soon-to-be Microsoft product manager in Redmond, Wash., says being enrolled in the *Wall Street Journal*'s #5 ranked business school has been a big help. "Recruiters *want* to come [to Carnegie Mellon]," he says, working on his laptop—untethered, of course—in the Posner Hall lounge. "When I mention the words 'Carnegie Mellon,' people take notice."

—CHRIS A. WEBER

A Night to Remember

Tents litter the football field at Gesling Stadium to offer refuge from what will be an all-night relay. An '80s pop favorite blasts from the stadium's sound system. The music spurs an impromptu dance party by the side of the track as speed walkers, their shoulders slumping a bit, complete their fiftieth-plus lap at the American Cancer Society Relay for Life.

Suddenly, the revelry stops and everyone vacates the track, except about a dozen smiling individuals, all wearing the same uniform—a purple shirt with the word *Survivor* on the back. As they complete their lap together, cheers rain down on them from hundreds of students, professors, and friends attending the walkathon to raise money for cancer.

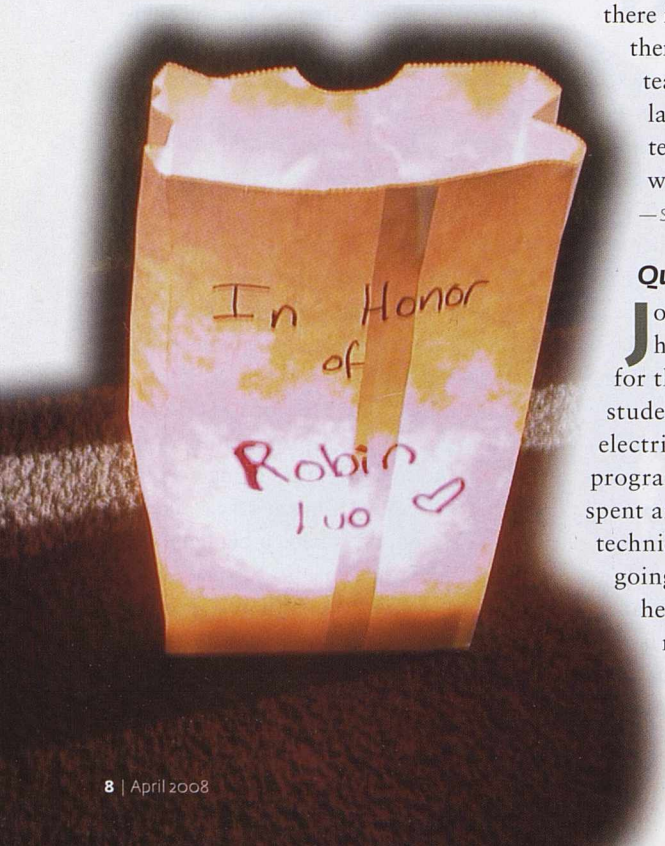
This event is led by Robin Luo, a senior communication design major. She is the co-chair and just one of many student volunteers who put together the overnight relay that will raise more than $52,000. Luo believes that support shown by the 46 teams participating is as important as the donations.

She should know. She is wearing a purple shirt, too. A survivor of nasopharyngeal cancer, she was not sure she would ever return to Carnegie Mellon. She was diagnosed in spring 2006, which forced her to return home to San Francisco to receive chemotherapy and radiation treatment. Her friend, Scott Smith, a senior design student who started the Relay for Life at Carnegie Mellon, had no doubts. He promised her that he would have a purple T-shirt waiting for her when she returned.

Back in San Francisco, she underwent 33 days of radiation treatment that made her temporarily lose some of her hearing, hair, and ability to eat. On bad days, she would spend three hours trying to finish a meal. Luo did return to school with a new appreciation for things beside good grades—like beating her guy friends in a pizza-eating contest and joining other survivors in the relay, many three times her age.

After the survivor's lap, the music returns, as do all of the all-night walkers. About two hours later, though, the stadium lights dim and, again, the music stops. The track is surrounded with candlelit bags, each with a name of someone who had to fight cancer. As the crowd walks a solemn lap, silently paying tribute, a student collapses next to a candlelit bag and starts to cry. Instantly, there is an arm over her shoulder, and then another, and another. Soon tears turn to smiles, and then laughter. There is no name written on the bag, only the scribbled words *Laughter & Love.*

—SEAN PATRICK CONBOY (HS'08)



Questionable Program

Joshua Debner spends most of his time in classes. The schedule for the Carnegie Mellon first-year student includes calculus, intro to electrical engineering, and computer programming. As such, his days are spent answering questions of a mostly technical stripe, ones for which he's going to receive grades. When he began the fall semester, he never expected his professors to be friends interested in his thoughts on life's deeper meanings.



But on most Tuesdays, after the day's course work is finished, the book bags plopped down in his New House dorm room, the mind shaken free of number strings and quiz percentages, Debner and a dozen other students on his floor meander over to their lounge, where Professor Kunal Ghosh, who teaches physics, awaits, often with pizza, always with a question.

Free food, as always, remains a big draw for first-years, but even without it, the sight of a professor sitting around a dorm lounge talking to undergraduates is novelty enough to bring in the curious. They sit, eat, and chitchat, but eventually the conversation focuses on the question of the day. One week it's: *What are the ethics of artificial intelligence?* A couple weeks later, it's: *What is love?*

Those doozies are courtesy of the university's pilot program Big Questions. It's an endeavor to make first-year students think about their civic, ethical, and moral development—not just their GPAs. Faculty volunteers lead regular group discussions centered on perhaps a book or a field trip, but always big questions of their choice.

Participation is purely optional. For Debner and the other classmates who took part throughout campus, the chance to sit down with a professor and some floormates, as equals, and to think about life from the broad side is both a luxury and a chance to shape a personal identity and value system in a way that's more holistic and fundamental than a Java 101 quiz can ever be.

The program's inaugural run ended with the fall semester, but the conversation didn't. Debner, Ghosh, and a handful of other students enjoyed it so much that they're continuing their chats

through the rest of the year. And next fall, when a new crop of first-year students show up to poster their dorm rooms and get lost looking for Wean, the plan is for another professor to be in the residence hall lounge with boxes of pizza and some of life's big questions to chew on. —BRADLEY A. PORTER (HS'08)

Going Platinum

Decked out in dress shirt and pants, Carnegie Mellon senior David Farkas approaches the well-suited gentleman at the small side table in the University Center's Schatz Dining Room. Introductions are made as Farkas sits to join the older man and his friends for dinner. Farkas pauses as he hears "Al Checco," thinking, "the name's kind of familiar." Then, recognition hits: the "Checco Studio" in the Purnell Center. This evening keeps getting more interesting!

Farkas, an industrial design major, is attending the Platinum Reunion dinner held during Homecoming Weekend. He is one of 12 students serving as Carnegie Mellon Highland Ambassadors. In the fledgling volunteer program, the ambassadors attend a variety of alumni events, getting to interact with some well-known graduates while giving guests a first-hand look at campus life.

Farkas has been volunteering on campus for years and has been assigned a number of responsibilities throughout Homecoming Weekend. He has spent Saturday doing a multitude of things, including zipping distinguished alumni around campus in a golf cart. He's met a number of engaging people, but this evening truly tops off the day.

The Platinum Reunion is being held for the classes of 1952 and earlier, and the dinner is surprisingly well attended by both men and "Maggie Murph" women. After mingling through the cocktail hour, Farkas finds himself seated with Al Checco (A'47) and Bill Thurnhurst (A'43,'47). He marvels that Checco has traveled from California to see his old friend, even after 60 years. He listens as the buddies banter about Carnegie Tech after the war, trips made to football games in Checco's old run-down car, and times spent in the Drama Department.

Farkas can't help but compare his own college experiences with those of the alumni around him. Their stories of fun feel familiar, as do their jibes at the school. The two men start to laugh over the fact that they still have their "dinks"—beanies that freshmen had to wear. (Thank goodness some things have changed!)

The men finish dinner and prepare to return to their hotels. With early-morning departures scheduled, they say their goodbyes. The farewell is casual because it's clear they'll be in touch. Farkas can't help but glance at his friend Nisha Phatak, a sophomore statistics major, who is also an ambassador. Maybe, he wonders, they'll be laughing in Schatz in 2068.

—MELISSA SILMORE (TPR'85)

▼ *Below left, Highland Ambassador Farkas. Below, Checco (standing) and Thurnhurst (sitting front) performed together in a 1940s Pittsburgh Playhouse production of* After Hours.



Take a Bow

The big, open room at Mr. Small's Theatre swarms with people, and the noise of the crowd echoes far up to the cathedral arches that top the former church turned venue. The talking, laughing, and tuning of instruments are almost deafening. Then, Simon Cummings and his bandmates take the stage at the Pittsburgh-area club. The minute they pick up their bows, the room goes quiet.

Among the crowd are some of the region's best rock musicians. They are all there for a battle of the bands competition. As the four cellists prepare to play, murmurs—even small spurts of laughter—break the silence. But there is a different kind of silence once the band begins.

This is Cummings' first concert as a full member of Cellofourte, a cello quartet band that plays mainly in the style of pop, metal, or hard rock music. His bandmates are two Carnegie Mellon alumni, Tate Olsen (A'04, HNZ'06) and Nicole Myers (A'02, A'04), and Duquesne University music major Ben Munoz.

Cummings, a senior music major studying—what else—cello, first began his pursuit of cello rock with Cellofourte by showing a piece he'd composed for a cello quartet to Olsen, his high school friend. Soon he found himself arranging more music for Cellofourte, like a song by the band Evanescence, known for their rock melodies mixed with classical undertones.

Cummings has always been enamored with music, starting at the piano at age six. "When I got to third grade, the music teacher asked [the class] if you'd like to play a musical instrument, and I just wanted to play something. When they asked what I wanted, I asked for something big." He got just about the biggest thing they had, the cello.

For the next 14 years, Cummings took the stage numerous times, playing classical music concerts at his school and transitioning to the bass or drums in numerous rock bands. Only with Cellofourte was he able to bring his musical worlds together.



Cellofourte strikes fear in the hearts of rock bands everywhere they perform. Left to right: Cummings, Munoz, Olsen, and Myers (kneeling front).

"Last night I was playing a Haydn concerto in C major, and I just went directly into playing *Ultimatum*, a brand new song we [Cellofourte] haven't even learned. ... My passion is to play these songs ... my fingers just want to go there," says Cummings. "I have no problem doing classical, and I like teaching kids ... but I really love doing Cellofourte."

Evidently, the judges at Mr. Small's Theatre loved Cellofourte, too. The band won. — *MICHELLE BOVA (HS'07)*

Sounding Bored

Lilah is the three-year-old daughter of Carnegie Mellon assistant art professor Jon Rubin. Today, her daddy has made her a special research assistant. She sits sandwiched between her father and graduate art student John Peña as their rented kayak bobs up and down in the choppy water. In another rented kayak sits Jonathan Minard (A'07), another graduate art student. The quartet is on a mission—to capture the sound of the Allegheny, Ohio, and Monongahela rivers converging.

The expedition is part of their Sounds You Never Hear project, a homespun radio station set up in a vacant building in Homestead, minutes from campus. The team has paddled away from the skyscrapers of downtown and the stadiums of the North Shore to record their latest single for the station. The debut recording was the chirp of an extinct sparrow, something that certainly wouldn't be among the playlists of today's format-based FM radio stations.

For the unique river recording, Minard has relied on some do-it-yourself ingenuity. He encased a sound recorder in waterproof plastic and attached it to a rope, creating an indestructible underwater microphone. When he plunges his contraption into the muddy waters like a fishing line, Peña and Lilah reach out and hold Minard's one-man kayak steady to keep him from tipping over into the chilly waters. He reels in a twenty-second recording of the calm bubbling and gurgling of the three rivers.

The team rows upstream, back to Kayak Pittsburgh Rentals. Soon afterward, they burn the clip onto a CD, snap it into a silver Walkman, and spin it on repeat at the 102.9 Sounds You Never Hear studios. The studio, all resting on a wooden table, consists of the Walkman, a book-sized shortwave transmitter, and a few RadioShack audio cables that connect to a small antenna outside the building. There is a faux radio tower atop the building, but it's just for show, constructed by Peña out of spare two-by-fours and metallic spray paint. The broadcast reaches an eight-block radius and is aimed, in part, at relaxing gridlocked motorists on the nearby Homestead Grays Bridge.

The signal is small, but it generates significant local media coverage along with one significant listener—the FCC. The agency shuts down the station because they don't have a broadcasting license. While there are no immediate plans to resurrect 102.9, acknowledges Peña, he says the media attention alone fulfilled the project's goal of challenging the banality of everyday radio.

—SEAN PATRICK CONBOY (HS'08)

Book of the Year

Robert Kaminski panics. It's late Saturday night, and the *Thistle*'s editor-in-chief is using a photo program that will help the yearbook staff easily access thousands of photos they've taken. Kaminski's photo editor just installed the program and spent the day painstakingly labeling and organizing each photo. In trying to figure it out, Kaminski pushed a button, and the labels disappeared. He sends a flurry of emails and text messages, hoping friends can help, but it's too late at night. He leaves the yearbook's University Center office. Problem unresolved.

Adversity is nothing new for Kaminski. The senior policy and management major is in charge of rescuing the *Thistle* from near oblivion. During the past few years, the publication dates would come and go. The 2004 book came out after the 2005 edition, and while the 2006 *Thistle* was on time, the 2007 version was months behind.

Last summer, Kaminski was approached by the student activities coordinator to recruit a photo staff for the *Thistle*. Kaminski had been the photo editor of *The Tartan*, and he and his newspaper photographers had contributed most of the photos in the 2006 yearbook, so he was familiar with the problems. After agreeing to help, he learned there was no yearbook staff. "You need an editor in chief?" he asked. "I'll just do that."

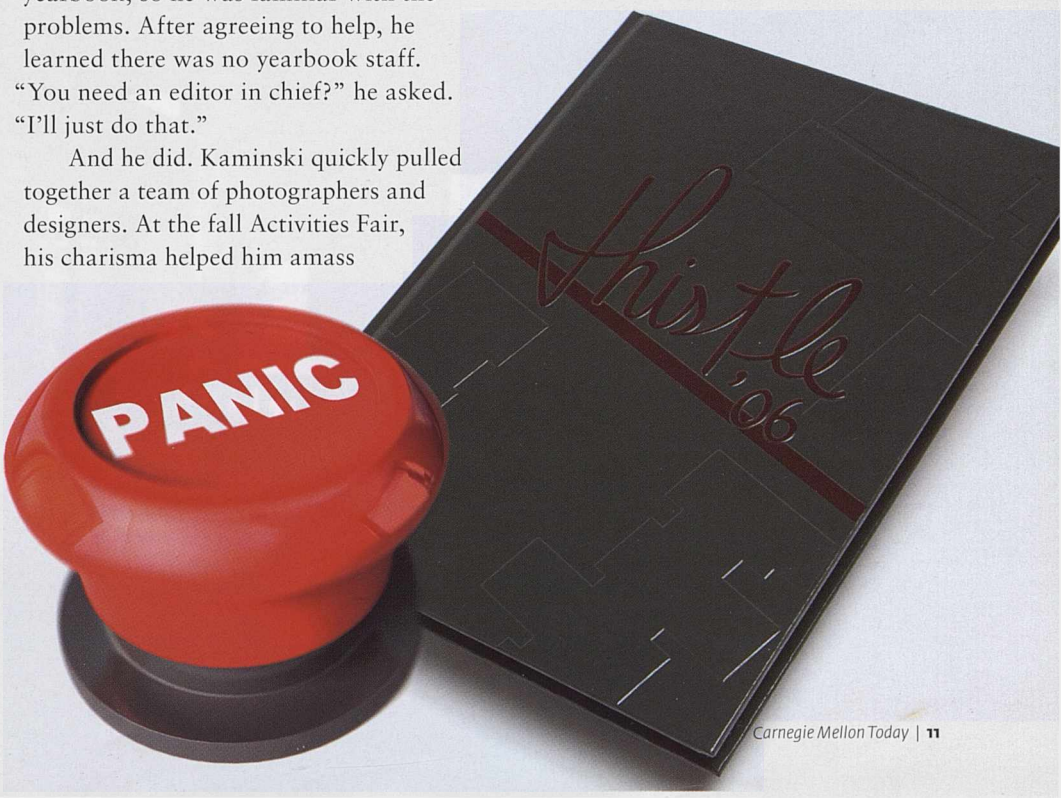
And he did. Kaminski quickly pulled together a team of photographers and designers. At the fall Activities Fair, his charisma helped him amass more staff, including a copy editor, business manager, and editorial team. Then he cleaned the decrepit office, which was filled with broken cameras, trashed computers, and invoices from the early '90s. "Even our stapler was broken," he says.

After scouring decades of yearbooks to come up with the 2008 edition's design, he found inspiration in the books from the mid-'60s—a clean, simple look he calls "classy mod." He organized the office, laying out deadlines and assignments on a massive whiteboard— the last deadline being the delivery date in August.

Knowing he can't make the deadlines by himself, he is quick to praise his staff of 15 and keep them motivated. When his photo editor showed him the computer's new photo organizing system, Kaminski wanted to give him a hug, though the editor preferred a firm handshake.

That euphoria was replaced by panic hours later. Kaminski was able to cajole two editors into spending their Sunday morning at work. Sure enough, they discovered an operating system bug. Once it was removed, the system rebooted, keeping every photo labeled. Kaminski smiled. The *Thistle* remains on schedule.

—BRITTANY MCCANDLESS (HS'08)



SUNNY DISPOSITION

It's a given that every dream home must be able to provide plenty of hot showers, well-lit rooms and porches, and comfy room temperatures. For a team of Carnegie Mellon students, their dream home had to provide something else in order to compete in an international competition—a renewable energy source.

by Bo Schwerin



Brian Kish holds his breath as he looks at the top half of the house wobbling on the cable of a towering crane. When Kish arrived at the construction site at 5 a.m., the house was in pieces. In fact, it had never been whole, at least never outside the detailed drawings and computer renderings, never outside his imagination and that of his teammates. Over the course of the day, Kish had directed his teammates as they put the home together like a giant, ready-to-assemble piece of furniture. The last of the house's five fragments now dangles in the air. Kish is about to find out whether his team's vision for a sustainable, environmentally sound future will come together.

For a year and a half, he and 13 core members of his team have been designing and building this house, which will be powered by nothing other than the sunlight cascading upon its roof. Created as a model of energy efficiency and inventive architecture, the house will be one of 20 entries from universities around the globe in a competition that aims to expose the public to an alternative way of living.

The sun seems to bow in close, as if realizing its role in the undertaking. Kish, a senior architecture major and the project's construction manager, had reviewed this day in his mind over the course of a mostly sleepless night. Beside him now, a film crew records the final section of the house lowering, inch by inch.

It fits. Kish can breathe, but just for a moment. There is more work to be done at the construction site—the parking lot of Construction Junction, a Pittsburgh non-profit that recycles construction materials and is one of the team's biggest supporters.

For the next three months, Kish and his teammates use power tools, charged in a solar-powered tool trailer, as they flesh out the connected structure. The team's work ethic is something that director Scott DeGraw notes while filming for the Discovery Channel documentary *Solar Showdown*.

"Their level of dedication, of craftsmanship, was impressive," he says. "They didn't let anything slide. We would sometimes be just showing up at the work site, and the students would have already been up all night working."

Once the house is ultimately completed, and is deemed a success, the team has to break it down again. Its parts are loaded onto trucks for delivery to the National Mall in Washington, D.C., where a village has sprung up for the 2007 Solar Decathlon.

The teams, from other American universities, Puerto Rico, Canada, Spain, and Germany, have been invited by the U.S. Department of Energy (DOE). Each of the 800-square-foot houses—as diverse as exotic plants plucked from a rainforest—derive all their energy needs from a source that inspires no squabbling over quantity or price.

How well the houses harness the sun's energy will be tested during the decathlon, which is an eight-day competition composed of 10 contests, ranging from categories in architecture, engineering, market viability, and interior comfort. The idea for the decathlon came from DOE's energy concerns: finite fossil fuels, environmental degradation, and global warming.

Richard King, founder and director of the decathlon, believes that the competition can help alleviate those concerns. "We want to educate our students on energy efficiency and solar energy, on green building," he says. "We're training the young students who will design and build the houses of tomorrow—zero-energy, zero-carbon houses."

For the decathlon to be worthwhile, King knew he had to recruit renowned architecture schools. Carnegie Mellon was repeatedly recommended to him and, in particular, Stephen Lee, an architecture professor who emphasizes sustainable, environmentally sound design. Lee accepted King's invitation to participate, assembling a team for the first competition in 2002, and he is the faculty advisor again for Kish and his teammates. Carnegie Mellon is one of only six teams that have earned a place in every solar decathlon.

"Carnegie Mellon has always had dedicated and passionate teams who put every ounce of their energy into designing and building their houses, and they've always been successful," says King.

The latest entry from Carnegie Mellon is put together again on the mall without a hitch. In the coming days, a line of visitors wind through the home, and the team overhears some gratifying exclamations:

This can't be only 800 square feet! It has to be bigger than the other houses.

I could really imagine living here!

The guests witness the by-product of Carnegie Mellon's multidisciplinary philosophy. Architecture students planned the home, while art, design, and drama students fused functionality with aesthetics to create the interior and exterior. Students from the College of Engineering and the Tepper School of Business also helped with the construction, management, and fundraising.

The structure is three wood-sided "pods"—kitchen, bedroom, and living/dining room—connected to a steel-clad



The team raises the water tank.

"core." Hence, the house's name—TriPod. Visitors who open TriPod's front door find an expansive area formed by the kitchen and living/dining pods merging across the core, which acts like an open hallway. In the kitchen, designed by industrial design students, stainless steel appliances reflect the core's gleaming shell, complete with wine bottles perched in a rack on the broad counter. Across the blond highlights of the Pennsylvania longleaf yellow pine flooring, the living/dining pod opens up like a magazine foldout. Its shelving units, crafted by a School of Architecture design class, cover the walls in an array of quadrangular configurations, holding a laptop, a television, a collection of books. The home's furnishings—the four-seat dining table, the couches, the numerous end tables—complement the home's clean geometric box patterns. Plenty of green enters the house: Tousled spider plants lie about like festive wigs. Save for the colored mood lighting playing across the core's lofted ceiling, TriPod's warm glow derives entirely from sunlight diffusing through the house's windows and glass doors.



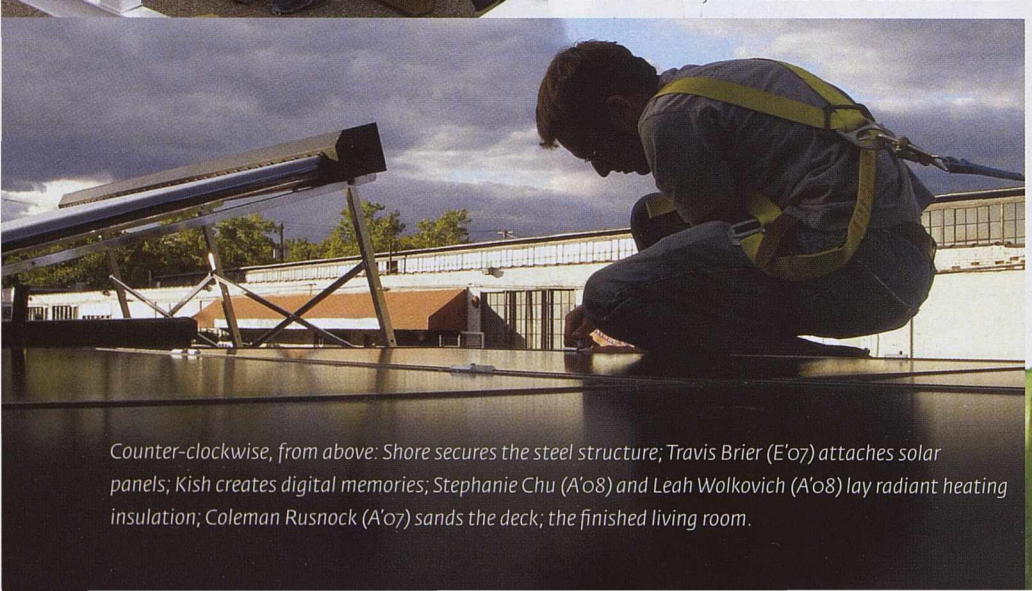
Down the core's hallway, past a frosted glass door, is the bathroom, also envisioned by industrial design students. A left turn leads into the bedroom pod, where even with a full-size bed made up in Tartan crimson sheets, six visitors peruse the room without brushing shoulders. Outside, a "greenscape"—a terraced arrangement of planters designed by School of Art students and watered by its own rain-collection tank—climbs the front of the house. In the marsh gardens at the base of the greenscape, fish dart like slivers of sunlight. A butterfly meanders among the bowing grasses.

At one point, the sun breaks out from the cover of gloomy clouds, gifting the crowded village with a brighter dose of the 45,151,524 trillion BTUs of energy sent to the Earth per year. Such a source could handle all of the world's energy needs. The rays are welcomed into TriPod's roof-mounted photovoltaics—solar panels—which convert roughly 18 percent of that energy into electricity. Stored in batteries for use on cloudy days, that energy is enough to power the house without any supplementary source. Also on the roof, the tubes of a solar thermal collection system draw on the sun's rays to heat the water currently jetting from the house's bathroom showerhead at a flow rate of 1.5 gallons per minute.

The Carnegie Mellon team needs every bit of that flow rate. The decathlon is under way, and TriPod is being put to the test.

In the bathroom, Kish and the team's plumbing specialist, Rebecca Shore, a senior architecture major, peer anxiously at the steam in the shower stall. It's the hot water competition. Can TriPod bring the heat: 15 gallons of 110-degree water within 10 minutes? Shore isn't sure. She is suddenly worried that the pressure booster for the shower, which keeps the flow rate going, may be undersized. By now, though, Kish and Shore are used to odd problems and concerns cropping up at unexpected moments.

"Things sometimes didn't work out in physical terms as they did in our drawings," Shore says, "so every day we had to come up with new solutions." Pipes not fitting into allotted spaces, doors not meeting building regulations, and materials arriving late. Even the original concept for the house was a months-long process of fits and starts and scrapped plans. "There was a lot of pushing and pulling about what would go in the house," Kish says. The team traveled to Germany in June 2006 to brainstorm with the solar decathlon team from Technische Universität Darmstadt. (Students from that university had collaborated with Carnegie Mellon's 2005 team, inspiring them to enter their own house in this competition.) By that fall, the design Kish and the rest of the team created in Germany encountered complications. Staircases took up too much square footage. The trapezoidal roof didn't easily accommodate photovoltaic panels. So the team scrapped most of that plan for a new central concept: plug and play.





Counter-clockwise, from above: Shore secures the steel structure; Travis Brier (E'07) attaches solar panels; Kish creates digital memories; Stephanie Chu (A'08) and Leah Wolkovich (A'08) lay radiant heating insulation; Coleman Rusnock (A'07) sands the deck; the finished living room.

Imagine a computer motherboard. Different chips plugged into the motherboard can alter and enhance its functionality and performance. The core of TriPod contains all of the house's mechanical systems: plumbing, electrical circuits, ventilation units. The pods are then "plugged" into the core; depending on the homeowner's preference, varying sizes and numbers of pods can be connected. The centralization of the home's essential systems, and the easy access to them behind floor and ceiling panels, makes servicing and upgrading simple. Even the house's shelving system is fully modular, able to be plugged into the walls in any arrangement to meet the homeowner's storage needs.

Practicality and consumer appeal aside, every aspect of the house was carefully considered for environmental impact. Construction materials were limited to recyclable metals and plastics. Wood was harvested using sustainable methods in Pennsylvania forests to reduce the energy expense of shipping. Through the pod windows, cool air flows in, and hot air rises through the higher core windows, limiting the need to use the home's climate-control systems. Meanwhile, the structural insulated panels, the greenscape, and the additional plants that form a "green roof" on the kitchen pod all help maintain the house's temperature.

Now, Kish and Shore watch eagerly as the judge clicks the stopwatch: 10 minutes passed. The pressure booster proved strong enough to reach the 15-gallon hot-water goal. The judge tells the teammates that TriPod has the most efficient shower in the competition.

A few days later, the decathlon ends. Carnegie Mellon placed first in the energy balance competition (TriPod produced more energy than it used), and the team's German counterpart, the Technische Universität Darmstadt team, won the overall title. In their speech, the winners thanked the Carnegie Mellon team for their support and inspiration (the only team they mentioned).

For Kish, the competition goes beyond trophies and handshakes. He believes that TriPod offers a blueprint for lifestyles that conserve energy and produce less waste. He notes that systems like TriPod's solar thermal collector are already inexpensive and easy to install, and other options like high-quality insulation, energy-efficient windows and appliances, and passive temperature-control strategies are all readily available to home builders.

"The cost of fossil fuels will be going up in the next 5 to 10 years, and the cost of things like photovoltaic panels will be going down, so there will be a critical point in the near future where renewable energy will become an economically viable solution," he says.

TriPod's future will be at the Powdermill Nature Reserve near Pittsburgh, where it will serve as an environmental classroom and lasting testament to the team's innovation.

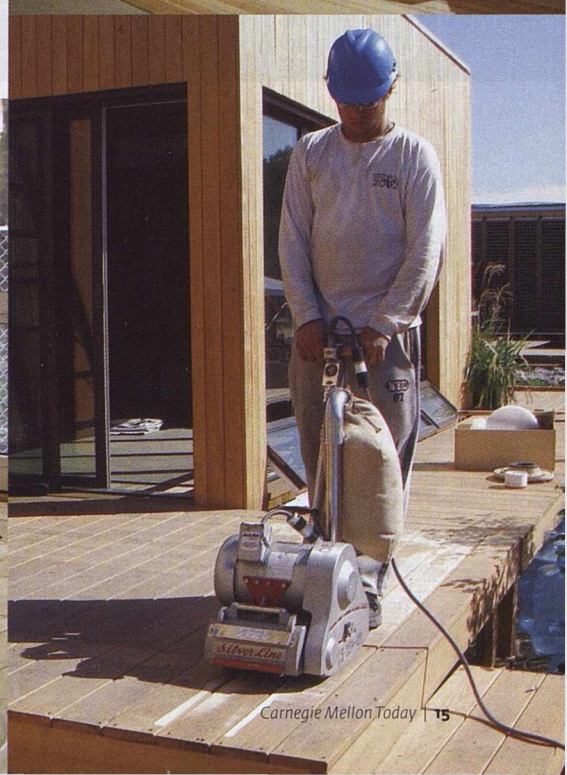
Kish's future is intertwined with the past. He remembers one day in particular, in the Construction Junction parking lot, when rain started to pock on TriPod's steel core like hundreds of nail guns firing. He ran from the ungrounded house as lightning flashed, joining his teammates under an overhang and watching in awe as the storm raged, the charged sky a dynamo of sheer power. As the storm tapered into a steady downpour, the water streamed in sheets down the nearby railroad jetty, and the greenscape's rain barrels overflowed. Kish and his teammates gave up on work for the day. They ran out in the rain, stomped in puddles, splashed and laughed and drank it all in, the abundance of nature. It seemed to Kish like the springs of energy and enthusiasm inside them were replenishing. It seemed like a renewal. ■

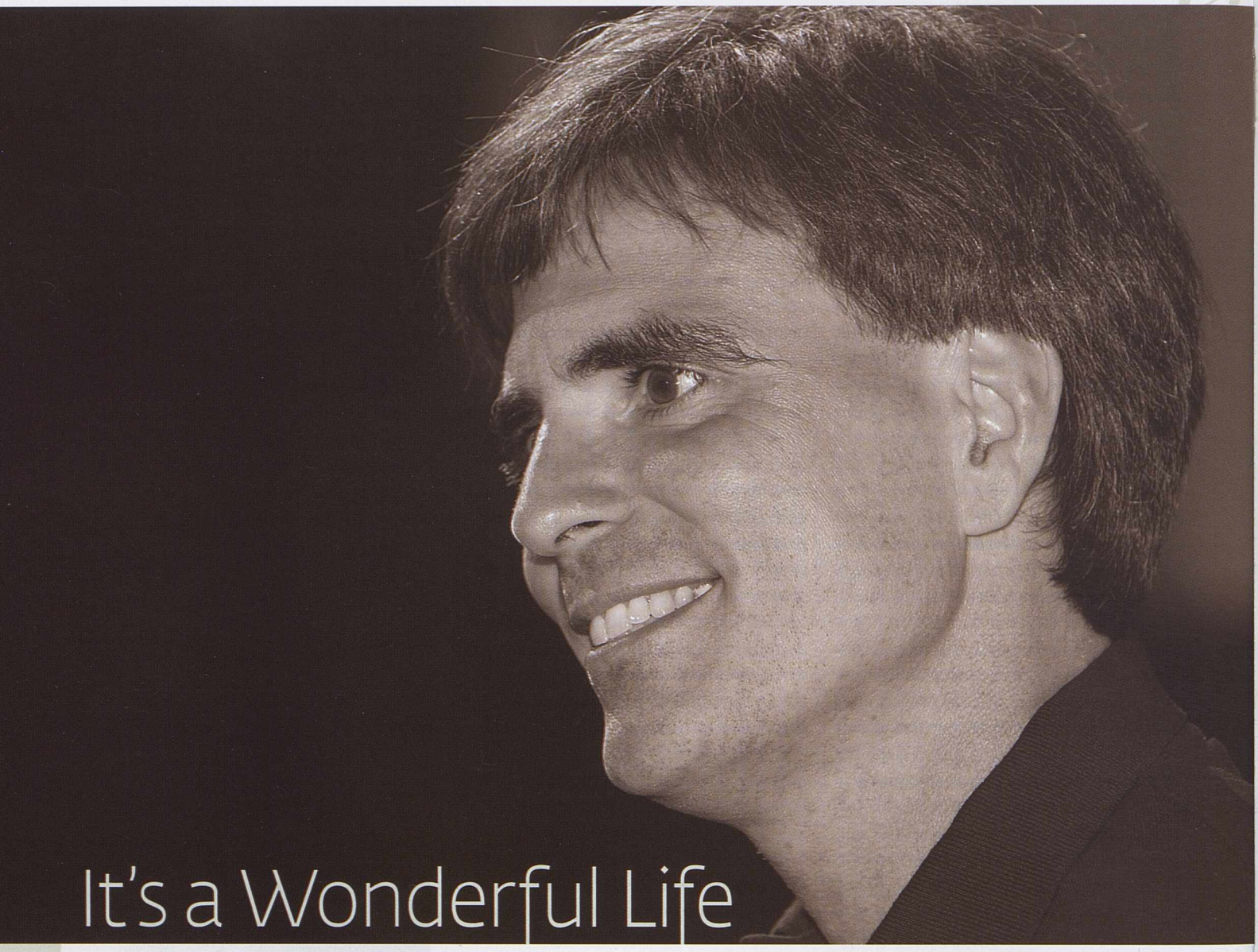
Learn more online: carnegiemellontoday.com

Bo Schwerin is an award-winning freelance writer based in Baltimore and an adjunct professor at the University of Maryland, where he teaches writing.









It's a Wonderful Life

Randy Pausch, in the prime of his life, has already built quite a legacy. Sadly, though, terminal cancer will bring an untimely end to his work. But the diagnosis hasn't stopped this Carnegie Mellon virtual-reality pioneer from adding one last piece to his legacy. *by Sally Ann Flecker*

Before his "last lecture" went viral on the Internet, with 6 million hits and counting, before *Oprah* and network news shows made his name familiar in households everywhere, before the major book deal with Hyperion to expand on that lecture—before any of that, I opened an email that Randy Pausch sent to the members of his church in Pittsburgh. Pausch, who earned a doctorate in Computer Science from Carnegie Mellon in 1988, returned in 1997 as a tenured professor and the much-admired co-founder of Carnegie Mellon's Entertainment Technology Center. The email started with good news: After a year that had included a diagnosis of pancreatic cancer (one of the most deadly); after surgery to remove the tumor, his gallbladder, and part of his pancreas, stomach, and small intestine; after months of punishing chemotherapy; and after a round of a trial vaccine, he was finally feeling like his old self—strong, healthy, and vital. He was lifting weights, riding his bike every day, and roughhousing with his kids, ages 5, 2, and 1. *I once again bounce while walking down the hallway,* he wrote. Then, he dropped the bombshell. His latest computed tomography scan showed that the pancreatic cancer had returned and spread aggressively throughout his body. It was late August. His doctors thought he might enjoy "good health" for another three months. Six months tops.

Pausch talked about his plans. He would opt for a regimen of palliative chemo, with a 15 to 20 percent chance of buying a few more months. He and his wife, Jai, would move within a matter of days to Virginia, closer to family. They wanted to make sure their son, Dylan, started kindergarten on time. He thanked friends, family, and colleagues: *This is obviously not how I wanted things to turn out,* he wrote, *but my wife and I have no regrets; we did everything I could to maximize my odds. And we want to thank everyone who has so graciously helped us...We are sorry this story doesn't have a happier ending.*

In light of such devastating news, I was struck by the unflinching tone, the nod of apology that he couldn't win this one. The email topped a long correspondence journaling his experiences from the beginning, and I scrolled backward, reading each entry until I reached the beginning. Then I very deliberately deleted the email and emptied my trash. I wanted to make sure I wouldn't have a reminder of his fate. Pausch was 46. His children were way too close to the ages of my sons. There are two things so unspeakably horrifying that a parent can't contemplate them a second longer than it takes to shove the thought away. The first is losing a child. The second is leaving your young children in the world without you there to encircle them in that primal bubble of love and care. I can't imagine how Pausch is doing it. I didn't want to.

But the story of how Pausch was facing his impending death was hard to escape. On September 18, he gave his "last lecture" on campus—a talk where a retiring professor packs the wisdom and knowledge of a lifetime into one hour. The last lecture is meant to be hypothetical. And maybe it was that irony, combined with accounts in several newspapers, including one in *The Wall Street Journal,* as well as the lecture's instant and easy availability via the Internet, that fueled the flash fire of public interest. Suddenly the national networks and *Oprah* were knocking at the door. Multiple appearances followed. *ABC News* named him one of their Persons of the Year. Almost everyone I knew had heard about him—even those like me who didn't want to. "My mother wanted me to watch him on *Oprah,*" my sister-in-law told me. "I told her, 'No. It's too painful.'" The paradox that someone who looks so healthy, so full of life—not to mention someone who can drop to the floor in an instant and do clapping push-ups—was too unfathomable to ignore.

Randy Pausch has a history of taking his world by storm. As a high school senior with a 3.7 GPA, he was surprised when Brown University waitlisted him. But instead of enrolling at his second choice, he called Brown and talked his way in. Once there, he attacked his studies with fervor. His mother, Virginia, a retired high school English teacher, tells the story of traveling to parents weekend his first year. She and her husband wanted Randy to have breakfast with them Sunday morning before they returned home. Randy refused. Sunday morning was his only opportunity to get time on the computer. "This was before the days of every student having a computer," his mother remembers. "I was crushed. I cried all the way home. But I didn't cry four years later when he was the top student in computer science."

Pausch's energy and confidence could have carried him to a different place. He likes to tell the story of a life-defining moment that came compliments of his mentor, computer science professor Andy van Dam. Pausch was a sophomore, one of van Dam's undergraduate teaching assistants. He bounded into a Tuesday evening tutoring hour with what he calls an "I'm going to save the world" attitude. There was a long line of students, and Pausch made what he calls "a big ballyhoo" about how fast he was going to get them helped. Afterward, van Dam pulled him aside, put his arm around his shoulder, and took him for a little walk. "It's a shame that people perceive you as arrogant," van Dam told him. "It's really going to limit what you're able to accomplish in life."

Says Pausch, "To this day, I think it's probably one of the best-constructed sentences I've ever heard in my life. He didn't insult me; he didn't make a value judgment. It was an observation about how other people were perceiving me—without addressing the issue of whether it was true. He spoke to it as how it would be a bad consequence for me, not that it was a bad consequence for others. I think that's brilliant." Not that it went down so easily in the moment. When Pausch went back to his room, his roommate commented that he looked like he had just seen a ghost. "I was completely drained," Pausch says. "I was taken to a place where I had to think very hard

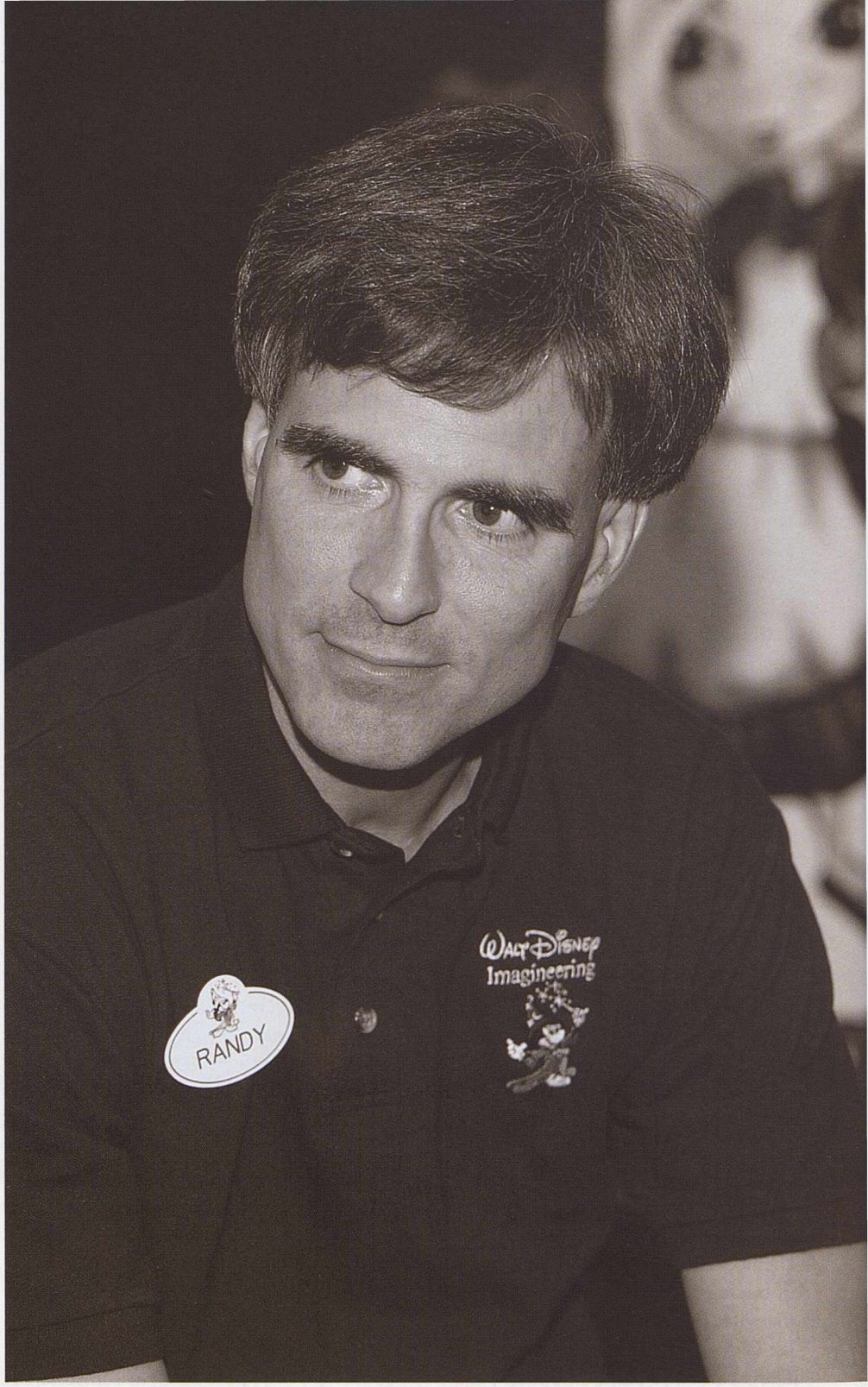
about who I was and what kind of person I wanted to be. Without Andy, I wouldn't be where I am today. Period."

Where he is today is in the vanguard as a teacher and innovator. When he was hired from a tenured position at the University of Virginia to the Carnegie Mellon faculty in 1997, he hoped for a joint appointment in computer science and human-computer interaction. He never expected a third appointment—in design. Pausch was flattered—and stumped. When he talked to that department's faculty, they told him, "Oh, you're a designer. You just don't know it."

"That was just such a classic Carnegie Mellon moment," Pausch says. "We don't define people by narrowly putting them into bins. Carnegie Mellon thinks so broadly and operates under the principle of letting people bring out the best in themselves and worry what to call it later. Sometimes we just say, 'There is someone really creative, really smart. Let's find a place here for that person.'"

Pausch made his initial mark at Carnegie Mellon when he created the cross-curriculum course Building Virtual Worlds. BVW brings together 50 students who design virtual-reality projects in random, small groups over the semester. It's a learn-by-doing, team-building kind of course intended to bring out the best blend of creativity and technology. Pausch's inspiration for the course came from the sabbatical he took at Walt Disney's Imagineering Labs a few years earlier—a sabbatical unprecedented for both Disney and academia. Pausch calls it the best sabbatical in history, "certainly in terms of benefit accrued in academia. ... I just brought a whole culture back. That was an absolute turning point because that was when the seeds were sown for everything else for me professionally, putting artists and engineers together."

The premise of BVW is deceptively simple: Make whatever virtual world you want—barring shooting violence and pornography. "That's been done already in virtual reality," Pausch explains.



Pausch reflects for a moment during "The Last Lecture."

Then, with his swift wit, he adds, "You'd be amazed at how many 19-year-old boys are completely out of ideas when you take those off the table." The class always comes through, though. A must-see event on campus every December is the BVW showcase in McConomy Hall, where students present their projects, which have ranged from encountering a sudden waterfall during a virtual river-rafting adventure to a world where stick figures in a child's notebook peel themselves off the pages in search of romance and adventure (but not until they've vanquished the menacing stick monster with a bottle of white-out). Archived BVW videos can be viewed at www.etc.cmu.edu/bvw/worlds.php.

"I'm just a guy," he says, "who is trying to raise his kids from beyond the grave."

BVW became the bedrock on which the Entertainment Technology Center was built. Pausch co-founded ETC with drama professor Don Marinelli. (And he makes a point of giving Marinelli 70 percent of the credit.) The program brings together fine arts and computer science for a two-year master's degree in entertainment technology. ETC is described as the graduate program for the left and right brain, the idea being that artists and computer geeks need to be trained to work together—not to become each other. Pausch likes to call it "the dream fulfillment factory." ETC is the gold-standard organization for training artists and engineers to work together, according to Steve Seabolt of Electronic Arts, makers of the popular computer game *The Sims*. "It's the interactive program by which all others in the world are judged," he says.

But what Pausch considers his legacy's core is *Alice*, software that teaches programming to middle school and high school students. *Alice* started out as a programming tool for virtual reality; then it became a programming tool to make it easier to write 3D graphics programs. "Then somewhere along the line, we realized we were holding the wrong end of the tiger, and what we had built was a system that actually made it easier to learn to program in the first place," says Pausch. "I am very proud of the fact that it ended up going in a completely different direction than we had originally thought. We rolled with that as researchers."

The beauty of *Alice*, he says, is what he calls a "head fake," borrowing a sports term—teaching youngsters programming while they think they're making animations, interactive games, or videos. *Alice* is not an acronym, by the way. It's a nod to Lewis Carroll. "Lewis Carroll was one of the greatest mathematicians of his day. But he also knew how to make things incredibly simple. It's obvious that virtual reality is a good metaphor for stepping through the looking glass," says Pausch. Then, speaking pragmatically, he adds, "Everybody can spell *Alice*, everybody can pronounce it, it drifts to the top of alphabetized lists. I am nothing if not an engineer."

Alice software is free, courtesy of Carnegie Mellon, at www.alice.org. There have been more than 1 million downloads, and eight textbooks have been written about it. "And it's not the good stuff yet. The good stuff is coming in the next version," says Pausch. He's referring to version 3.0, due out later this year. It's a collaboration with electronic arts and uses characters from *The Sims*. This newest version may position *Alice* as the national standard for teaching software programming. "I, like Moses, get to see the Promised Land, but I won't get to set foot in it," Pausch says. "But that's okay, because I can see it. And the vision is clear. Millions of kids having fun while learning something hard. That's pretty cool. I can deal with that as a legacy."

His legacy's final piece will be his last lecture and a book, *The Last Lecture*, which puts Pausch's message in print. The book, to be released this month, is co-written by Jeff Zaslow, *The Wall Street Journal* reporter who originally covered the lecture and coincidentally, a 1980 Carnegie Mellon graduate.

Pausch thinks the lecture struck such a chord because he's giving what he calls old-school advice in a way that doesn't sound old school. "I'm not an old fuss-budget wagging his finger and saying, 'All these kids nowadays. ...' I'm just saying, 'Look, I did all these cool things. Here's what works for me. I suggest you try it.'" In the end, though, as he reveals at the lecture's close, the talk is really meant for an audience of just three.

"I'm just a guy," he says, "who is trying to raise his kids from beyond the grave."



In spite of his prognosis, Pausch peppers the conversation with energetic words—*Cool. Phenomenal. Wonderful. Awesome.* I talked to him on the phone one day in November when he had been riding his bicycle. On the days that the palliative chemo doesn't have him down, he gets in an hour of exercise while his two youngest ones nap. He had just gotten the news the day before that the chemo was helping. His tumors were shrinking. Doctors said it will keep him feeling good for another three months. "I just doubled my life expectancy," he laughed. "You try to do that."

He still has no illusion that the effect is permanent. He was always the kind of person, he says, to look at each day as a gift. So that's what he's doing. Living each moment as fully as he can while he's here. You try to do that. ■

Learn more online about the new book, The Last Lecture, *and get an update on Randy Pausch's health: carnegiemellontoday.com*

Sally Ann Flecker is an award-winning writer whose work appears regularly in this magazine.

Goal Oriented

The Tartans' Presidential Soccer Star

by Chris A. Weber

Gauging the arc of the crossing pass as the ball floats toward her in front of the goal, the Tartans' soccer forward darts to her left to create open space away from the NYU defense. Deftly, Kasey Stever gains control of the ball—using her feet, elbows, and body to box out the opposition as she prepares to shoot.

With her back to the goalkeeper and a defender draped on her left hip, Stever pivots to her right and fires, her left leg driving the ball toward the goal.

In making that move at Gesling Stadium, Stever feels pain seize her left ankle. It has been two weeks since it was sprained, which prevented her from even practicing. No matter. When your career numbers rank near the top in 10 Carnegie Mellon offensive categories, and the team needs you to remain in the conference title hunt, you play. Good thing. Her shot is on target as it slices tantalizingly away from the diving net-minder for the game-winning score.

The industrial design student has had success in the classroom, too, including being named a presidential scholarship recipient.

Her academic, athletic prowess shouldn't be a surprise. She comes from notable lineage. Her grandfather is Guy Stever, Carnegie Tech president from 1965–72, who happened to be quarterback for his high school football team (which his granddaughter points out went undefeated).

The four-year letter winner is proud of the legacy forged by her grandfather, now 91, noting that he valued athletic competition and played a role in the eventual establishment of the University Athletic Association.

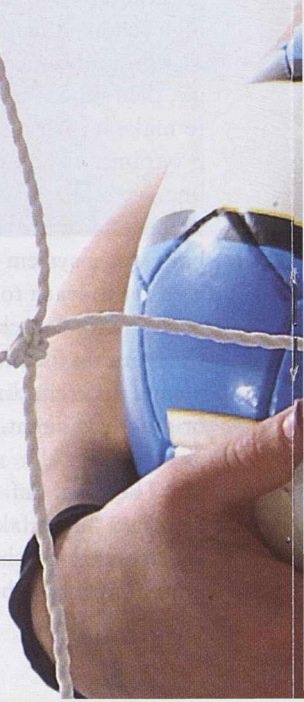
It's a legacy that her grandfather recalls with pride: "In every facet of the university's life, you can see tremendous progress, from the buildings to research and student life. I am very proud to have been a part of Carnegie Mellon's history and think it is just great to have Kasey there."

During this past season, the Tartans made it to the ECAC playoffs. Along the way, the 5′6″ senior was the team's co-leading scorer and climbed to third all-time in points, fourth in goals, and sixth in assists while earning second-team All-UAA honors. And she never missed a game, playing in 70 career collegiate contests.

Stever has earned accolades off the pitch, too. As a freelance designer for Novelis Corporation, she helped to design a board game that has received international recognition. Also, she was selected for a highly sought-after summer internship at the architecture/design firm Burt Hill, which has won several prominent design awards.

Her flair is recognizable in her portfolio of media ranging from pastel to pencil to Photoshop. Her projects run the gamut from improved automotive instrument clusters to trend-setting swimwear fashion. "Being an industrial designer means coming up with fun things and telling engineers to make them work," she says, smiling. "It's all about being creative."

Leafing through each page, filled with colorful lines echoing confidence and fluid movement, it's clear that Stever's artistic talent and style of soccer play, in many ways, are the same.



Stever and the net are no strangers.


Carnegie Mellon
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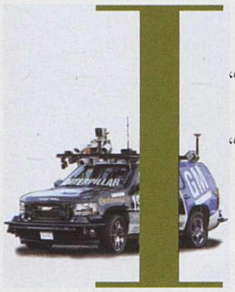

CATERPILL
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No Hands On the Wheel

Bragging rights, not to mention a $2 million first-place prize, were on the line during a race of robotic vehicles. They got their car keys from the likes of Carnegie Mellon, Cornell, Lehigh, MIT, Penn, Stanford, and Virginia Tech. Winners will one day be found everywhere from freeways to battlefields.

by Christina Koshzow (HS'02, HNZ'03)



It is barely 40 degrees in the Mojave Desert, but William "Red" Whittaker is comfortably pointing at the horizon. "See that streetlight in the fading dusk?" the Robotics Institute professor asks, poetically directing a group of shivering reporters to an empty parking lot. "That's where we're really expected to outperform the competition."

Properly layered in a white, long-sleeved polo and heavy Tartan Racing jacket, Whittaker decides to finish the press briefing inside. He guides the group into a giant white tent and pulls a laptop from behind a flap in the wall. When he opens the computer, the team leader cautiously moves a cup of coffee away from the keyboard.

Despite the bright lights, the atmosphere inside the tent is relaxed—so much, in fact, that it is hard to believe that Boss, Tartan Racing's self-driving car, is less than an hour away from competing for a $2 million first prize. There are no frantic last-minute adjustments. When the sun begins to rise over an abandoned Air Force base in Victorville, Calif., Whittaker excuses himself and heads to the starting line.

Closer to the grandstand, Norman Whitaker (no relation to Red), program manager of the Urban Challenge, grows excited. "If anyone tells you they know what's going to happen," he says, "they're lying. What you're going to see today is truly the first time that we've taken robots, put them on the course with other robots, and watched them interact with one another." After pausing, he offers a simpler explanation: "There are no midgets inside controlling these vehicles."

Midgets, no. Sensors, yes. Heavily equipped with lasers, radars, and cameras, Boss has 10 computers and more than 200,000 lines of software behind the wheel. Unlike some entrants who chose to modify sports cars or hide their sensors for aesthetics, Tartan Racing's Chevy Tahoe looks assertive and strong. Whittaker likes it that way.

As the spectators file into metal bleachers, the 11 robotic finalists line up side by side in chutes directly across from the stands. Because of its performance at the national qualifying event, Boss is seeded first, positioned closest to the JumboTron screen, where Tony Tether, director of the Defense Advanced Research Projects Agency (DARPA), announces the rules: All vehicles have six hours to autonomously navigate a 60-mile course and perform a series of challenges such as negotiating intersections, avoiding obstacles, and merging with traffic. Because all robots must also "obey California driving rules," both time and performance will be used to determine the winner. "If they're rolling through stop signs," says Tether, "they can finish fast, but they will not get the prize." The robots, which will be timed individually, will enter the course minutes apart to reduce congestion, beginning with Boss.

Shortly after 8 a.m., Tether waves a green flag and shouts, "Start the bots!" The robots' distinctive tracking sirens begin to blare, and the crowd, in excess of 3,000, begins stomping and shaking the bleachers.

But, for Boss, nothing happens.

The expressions in the stands from the Tartan Racing fans ride a wave of excitement, confusion, impatience, then panic, as one by one, the other 10 vehicles exit the chutes on time and cross the starting line.

Boss is still not moving.

Separated from the bleachers and yards away from the chutes, Whittaker distances himself behind the grandstand, hands folded at his chest. Behind the fence, a small group has gathered around him as he looks across the lot at Boss, its back open and still. Nearly half an hour after the scheduled start time, his team members continue to jog back and forth, gripping cables like organs.

If he chose to glance to his right, Whittaker would have noticed the nervous faces in the stands. But according to him, "if you get rattled, you don't belong in this game." Instead, he is "intrigued."

The problem, it turns out, is with the signals. Despite logging tens of thousands of miles, Boss was never tested next to a 20-foot television—the radio frequency from the JumboTron was jamming Boss's GPS. Ironically, Whittaker says, "winning the qualifiers was the kiss of death for the main event. We won that chute."

This was not the first time things have gone wrong for Whittaker.

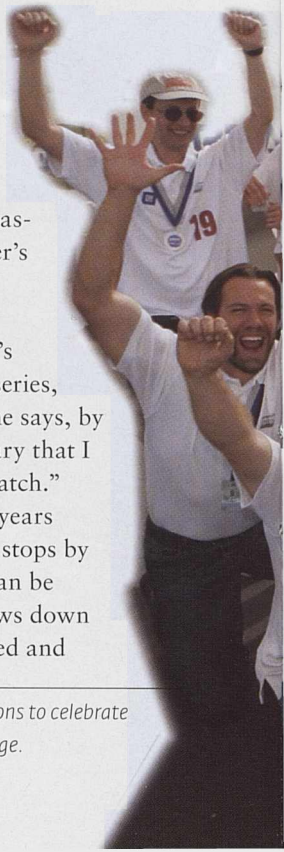
DARPA has sponsored two autonomous vehicle challenges in the past (though neither of those was robot on robot). Each one was called the Grand Challenge; the first competition, in 2004, featured 15 vehicles attempting to complete a 142-mile desert course for a $1 million cash prize. Although some of the robots moved—the Red Team got stuck on a bank and the front wheels melted—none of the vehicles finished, and the 2005 challenge was born.

In the 2005 Grand Challenge, four autonomous vehicles successfully completed a 132-mile desert route under the required 10-hour limit. According to Whittaker, his two entries were "clearly capable of burying any competition out on that course." But, in the end, a problematic fuel line caused Highlander, the team's frontrunner, to go "the distance but not the speed."

Back then, Stanford University's Stanley crossed the finish line first for the $2 million prize, and Carnegie Mellon's two vehicles placed second and third. The winning team's leader was Sebastian Thrun, Whittaker's former colleague at Carnegie Mellon.

NOVA, television's highest-rated science series, celebrated the event, he says, by making a "documentary that I can hardly stand to watch."

Now, nearly two years later, when a reporter stops by to ask whether Boss can be fixed, Whittaker throws down his hands, half annoyed and



Team Boss had 2 million reasons to celebrate at the DARPA Urban Challenge.

half shocked by the doubt. "Oh! Geez," he laughs. Almost instantaneously, he dismisses the question, as the voice behind his answer wanders off, "Yeah, sure, sure ... sure."

Shortly after, as if to prove his point, the JumboTron is shut down, and the announcer gets on the loudspeaker. Because Boss never crossed the starting line, it will not be penalized if it launches. Whittaker, with his arms back at his chest, preps the group of worried onlookers. "You can tell for sure when you see the lights and hear the signal, and five seconds later, it'll blaze out of here."

Almost on cue, two orange lights at the top of the Tahoe start flashing, and a siren pierces the air. Boss pulls out of the chute and stops. Then, in one swift movement, it turns left, drives up to the starting line, crosses it, and exits onto the course, all by itself.

In a rare moment of release, Whittaker's hands shoot into the air, and his face flushes with excitement. Michele Gittleman, Tartan Racing's no-nonsense project manager, tearfully calls her husband to share the news. From behind the crowd, someone shouts, "Red, you are the master of drama!"

With the race under way, Robert Bittner, Tartan Racing's test lead, rides a space-age-looking Segway over to Test Lot A, an area coincidently called the Red Zone. He holds a team radio, much like a parent clutching a baby monitor, and the faint sounds of Boss's tracking siren fade in and out like a lullaby. "I love hearing that sound get louder and softer, louder and softer," he says. It means Boss is still alive.

Test Lot A is the same parking lot that Whittaker pointed to in the morning, except now, it's not empty. Idling in the middle is the massive, lime-green, robotic truck called TerraMax. It's "thinking."

At this part of the course, the autonomous vehicles must enter the lot, park in a marked space, and then exit back onto the street. But for TerraMax, Oshkosh Truck Corporation's entry (sponsored, in part, by Auburn University), it's not happening. Finally, the only tactical cargo hauler in the competition starts moving again. Slowly. Right over a concrete island and toward a building on the edge of the lot.

The truck hits the structure's cement pillar with a thud and stops. TerraMax is disqualified.

Back at the Tartan Racing tent, the atmosphere is upbeat. The team of 50, not including supporters and sponsors, doesn't travel lightly. Amid tables and a buffet line, Tartan Racing fan Jim Rodriguez watches the event from a flat-screen TV at one end of the 1600-square-foot, NASCAR-style pit. Rodriguez (E'57) recently sat in on a CIT robotics class when he was back for Homecoming in order to brush up before the event. "Once you're an engineer, you're always an engineer," he says. "It never gets out of your blood."

The retired NASA engineer has seen many developments in his years, and he expects the next 20 to be no different. As one of the vehicles appears on television, he points to it. "All the gear you see there, that will all be down into the size of a pack of cigarettes," he says. "The technology is here. It's a question now of just the infrastructure and packaging it."

Two tables away, as the commentary on the television turns to the first robot-on-robot crash between MIT's Talos and Cornell's Skynet, Whittaker sits down to lunch by himself, his back to the screen. Minutes later, a team member walks



over to introduce his young son. Smiling, Whittaker sets aside his food and talks to the boy.

By early afternoon, the temperature in the desert has risen to a more comfortable 79 degrees, and a competition that began a year ago with more than 80 entrants has come down to six still alive on the course: Boss (Carnegie Mellon and General Motors' Chevy Tahoe), Junior (Stanford's Volkswagen Passat diesel), Little Ben (Penn and Lehigh's Toyota Prius), Skynet (Cornell's Chevy Tahoe), Talos (MIT's Land Rover), and VictorTango (Virginia Tech and TORC Technologies' Ford Escape hybrid).

As the robots near the completion of their mission, everyone makes their way to the grandstand to wait for the vehicles to cross the finish line. Stanford's blue shirts fill the center of the stands, while a sea of red and white packs into the end closest to the finish line.

In the distance, there is a siren, but it isn't Boss's. The blue shirts, sensing victory, start cheering. As the siren grows louder, Stanford's Junior comes into view. In a scene reminiscent of the 2005 Grand Challenge, Carnegie Mellon's Boss crosses the line behind Junior.

The finish, though, may not be what it seems. Because Boss started the race more than 20 minutes after Junior, determining the winner will come down to the teams' adjusted times and performances. The awards ceremony, where the winner will be revealed, is scheduled for the next morning.

Following the finish, the entire Tartan Racing team gathers inside the tent around Chris Urmson, their director of technology. This is his third DARPA challenge.

It is only 3:30 p.m., but the team has been up since before dawn. Urmson, his child in one arm, is excited. "Boss went out there tonight, or today, or whatever it was, and was just awesome!" he says. "It doesn't matter what we find out tomorrow. We were amazing."

Later that night, there is a 100-car pileup on Highway 99, just south of Fresno. For many of the Urban Challenge teams, this is exactly what they hope to prevent.

According to Whittaker, his motivations are three-fold: to build crashless cars, to "expand and extend" the driving experience, and to develop autonomous machines that work in the world. "Our real commitment is to the fulfillment of robotics—on the farm, in mining, in exploration," he says. "Perhaps the wondrous new market out of this event could be automotive."

DARPA's main objective is to spur technology that will "keep warfighters off the battlefield and out of harm's way," but for Tether, the time of safer, self-driving cars is also an eventuality. "I don't think we're going to see it on the streets for a while, but you know what? We now have cars that park themselves," he says. "It will happen." GM spokesman, Scott Fosgard, agrees. He says the automaker expects driverless vehicle technology to be ready for testing by 2015 and in vehicles that it sells by 2018.



The next morning, "Red" is missing.

Shortly before the awards ceremony, DARPA officials were supposed to brief the team leaders on their decisions. But, so far, no one, Whittaker included, is around. There is no body language to read or comments to decode.

"I was expecting all the team leaders to be here and be like, 'Look at Red. He's either really, really happy or really, really pissed,'" says Tartan Racing team member Jason Ziglar.

Ziglar's girlfriend and parents have traveled to California to watch the event. His father wears a hat that says "Jason's Dad" on the back.

For Ziglar, the road to Victorville started at Duke University, where as part of his senior design project, he built radar software for Whittaker's 2005 Grand Challenge entry. Not wanting to "leave the job undone," he decided to go install it himself. By the time he was done, he applied and was accepted to the graduate robotics program at Carnegie Mellon.

When the robots and their teams line up in the chutes for the medal ceremony, the spectators anxiously rush to the bleachers and try to assign a greater meaning to their order. In the stands, a small girl sits with her younger brother. Together, they comment on the robots directly across from them as if they were sports heroes, pointing out the biggest (TerraMax) and their favorite (Boss).

Tether takes the stage to announce the top three winners. When he pulls out a giant cardboard $500,000 check and congratulates VictorTango on a third-place finish, the little boy claps.

"At least it's not us," he whispers.

When the second-place $1 million check goes to Stanford's Junior, everyone cheers. Tartan Racing included.

For the fans, who figured the winner would be Junior or Boss, the announcement ends the suspense. But for the little boy, who is bouncing in his seat, it isn't over yet. "Boss could win, Dad! Boss could win it!" he squeals.

Tether proceeds to rip the brown paper cover from the front of the oversized $2 million first-place check. Boss's name is on it. Next to the check is a 100-pound eagle trophy. Next to the eagle is a 6'4" man. Whittaker looks at the eagle, then points at Boss. "Bolt it right on the hood," he jokes.

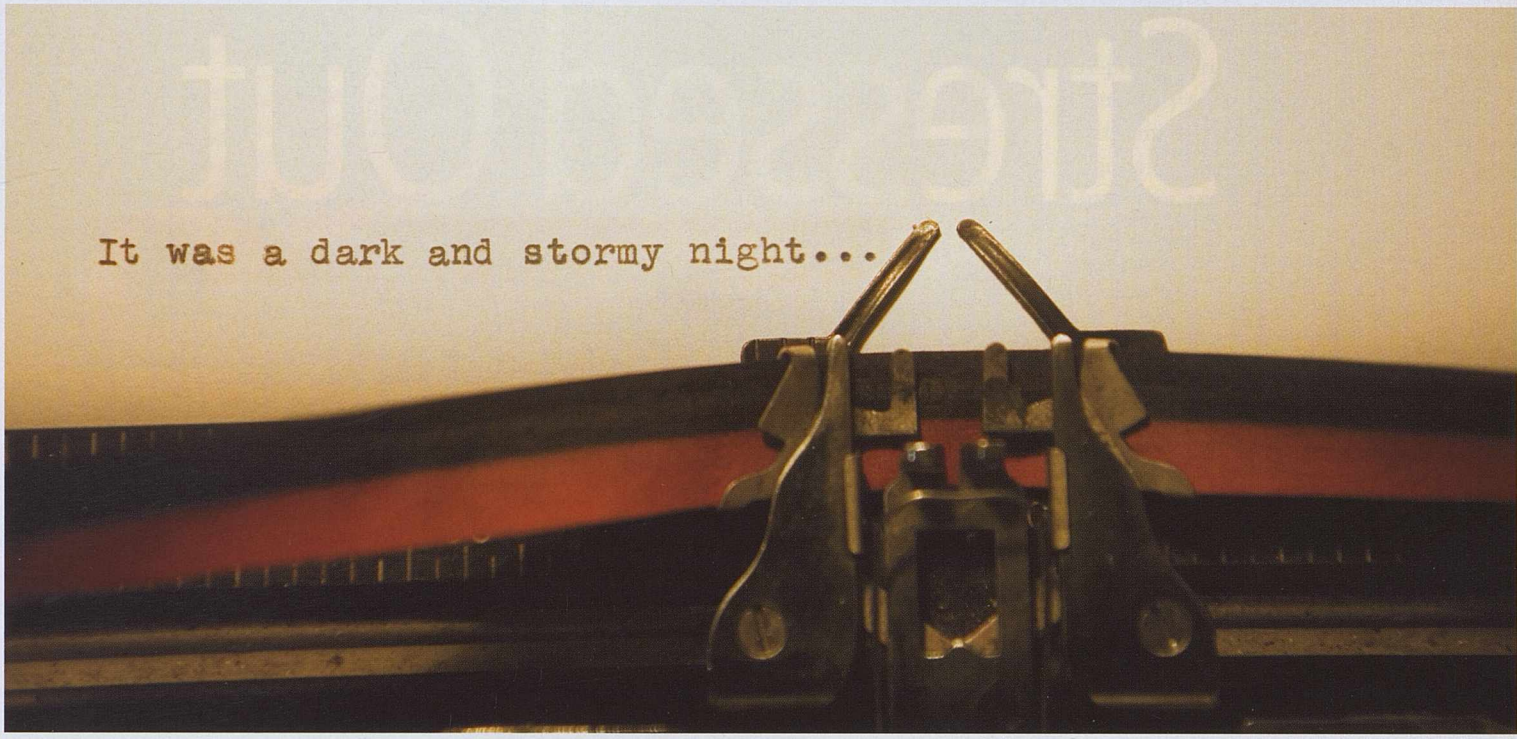
Whittaker is not shy about explaining precisely why Boss is "hands down the best planning machine, the best perception machine, and unquestionably the best driver." But, when it comes to all the people involved in the DARPA Urban Challenge, his words have a more humble tone.

"Robots sometimes stun the world, inspire a lot of people, and change the belief in what is possible. We just saw a few thousand people come together to have one of those magical days. Once it's changed, it never goes back."

Then, looking up at the sky, he says, "I'm going to the moon." The Google Lunar X PRIZE, and its $30 million purse, is next. ■

Learn more online: carnegiemellontoday.com

Christina Koshzow (HS'02, HNZ'03) is a freelance writer, former editor in chief of College Prowler, *and co-founder of Pittsburgh-based Branding Brand Communications.*



Hollywood's Muse

Scripts need to be more than good; they need Stephanie Palmer

Stephanie Palmer sits excitedly in her office. She is about to meet a young screenwriter who has submitted a script for a new teen comedy. As the director of creative affairs at MGM Studios, Palmer oversees nearly 4,000 script submissions sent each year by writers hoping to land a deal. Not surprisingly, she has grown tired of reading the same type of scripts time and again. But this one is different. The fresh voice is undeniable.


Palmer

But when the screenwriter meets with her, he seems to be nervous—talking hastily and, at times, incoherently—making his script sound like all the others. Palmer knows better, but she also knows she can't let him pitch the idea to her boss, because he can barely sell it to *her*.

She isn't ready to give up, though, and spends the rest of the day coaching the young screenwriter on making a pitch. The next day, when Palmer brings him into a meeting with her boss, he is smooth and charismatic, making all the important selling points, or as Hollywood agents and producers like to say, he is "good in a room."

When the script is bought on the spot, Palmer realizes she has a knack for helping people sell themselves. She winds up leaving MGM to start Good in a Room, a business that coaches people to make pitches.

Founded in 2005, it's the first of its kind in Hollywood, and it's now a blockbuster hit; 12 Academy Award directors and screenwriters have come to Palmer for help pitching ideas.

It's a bit surprising that though she works in the film industry, she grew up without a television in her home. Her parents encouraged her to read, so she devoured biographies, autobiographies, and plays. By the time she graduated in 1997 from the Carnegie Mellon School of Drama with a degree in directing, she says she knew what made a script work well. She honed the skill at MGM. Since then, she's bought and developed the scripts for such films as *Be Cool, Legally Blonde, Agent Cody Banks,* and *Mad Money.*

During her time at MGM, sitting through more than 3,000 meetings with writers and directors pitching projects, Palmer learned the nuances of presentation skills. She points out why the pitch is so important, noting that scripts compete with more than 60,000 screenplays already written and registered with the Writers Guild. With those kinds of odds, it's no wonder she borrows from the New York cliché by saying, "If you can pitch successfully in Hollywood, you can pitch anywhere."

For Palmer, to "make it" necessitates being good in a room—being the person who stands out by knowing what buyers look for: something concise, compelling, and repeatable. Using those concepts, she has expanded outside Hollywood to work with clients in various industries—some are financial advisors, some are looking for venture capital. "Ideas are inherently hard to pitch," she says. Her art of the pitch is the subject of her new book, *Good in a Room: How to Sell Yourself (and Your Ideas) and Win Over Any Audience.*

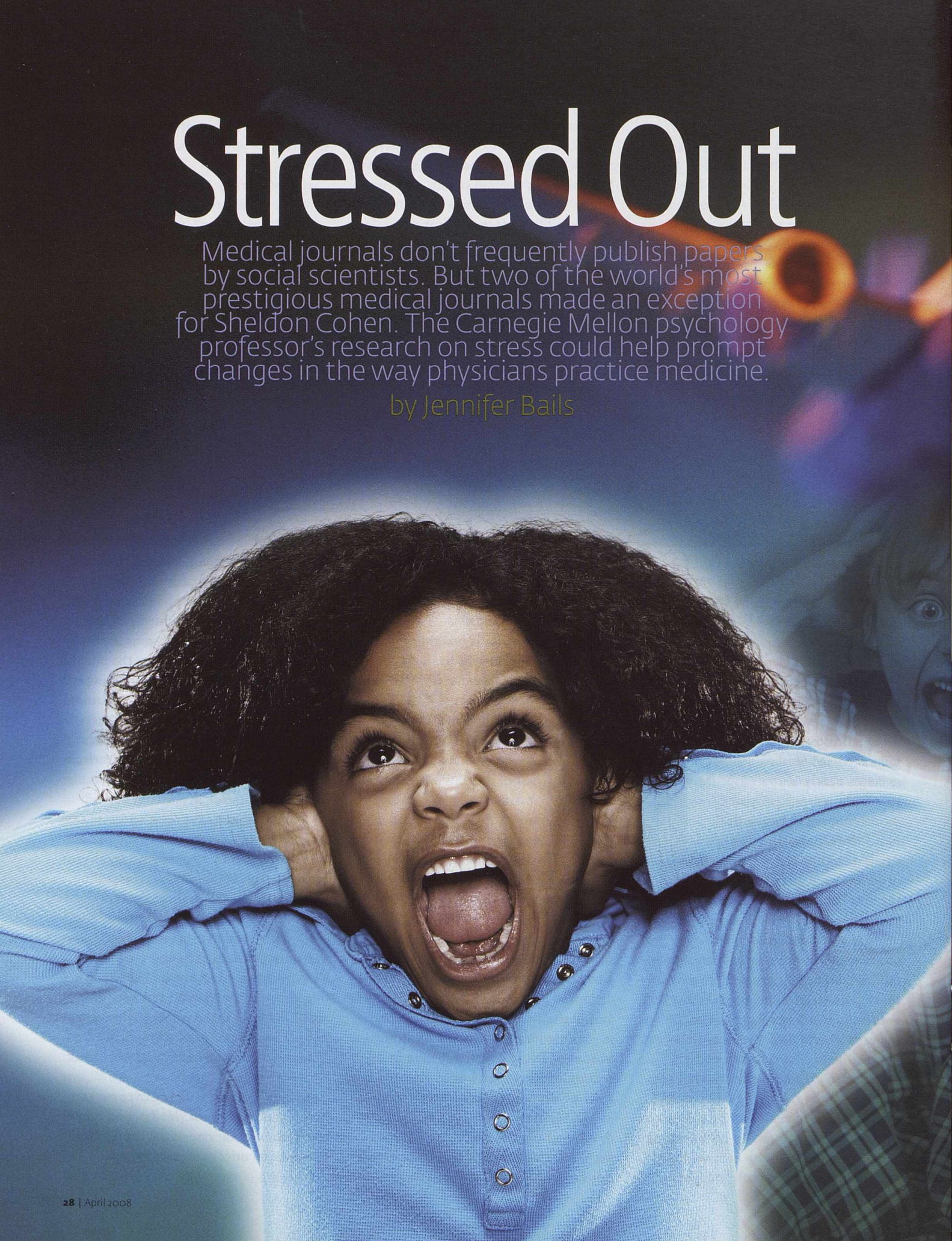
Her success at winning over a room hasn't gone unnoticed. *Hollywood Reporter* named her one of the top 35 Hollywood executives younger than 35.

— BRITTANY MCCANDLESS (HS'08)

Stressed Out

Medical journals don't frequently publish papers by social scientists. But two of the world's most prestigious medical journals made an exception for Sheldon Cohen. The Carnegie Mellon psychology professor's research on stress could help prompt changes in the way physicians practice medicine.

by Jennifer Bails





The roar of jet engines is an ear-popping reality at this elementary school beneath a common flight path to Los Angeles International Airport. More than 300 airplanes pass overhead daily—including one jumbo jet every 2.5 minutes during school hours. Certainly, the noise must be irritating and unpleasant to the students.

A young psychologist wonders whether something more insidious is happening. During his undergraduate studies as a psychology major, Sheldon Cohen stumbled upon a conjecture that noise in urban environments might impair reading ability in children. He has found an ideal real-world laboratory to explore the theory.

First, Cohen takes decibel readings throughout the school. Then, he measures reading performance in the children and assesses their ability to distinguish between similar words. Results show that the students appear to have adapted by tuning out the noise but, in turn, haven't learned to discriminate between speech sounds that are requisite for reading. Not surprisingly, he discovers that noise exposure also is associated with problem-solving deficits and feelings of helplessness.

Yet another pattern emerges from the data that is unusual—and even more intriguing to Cohen: The children attending school under the air corridor to LAX also have higher than normal blood pressure levels. He mulls over the problem of mind-body connection—that is, how a psychological stressor such as chronic noise could "get under the skin" to influence a biological factor like blood pressure.

If stress can elevate your blood pressure, he wonders, what other health effects might it have? Could feeling stressed make you more susceptible to colds? Or what about more serious illnesses—heart attacks, depression? Ask your neighbor or best friend any of these questions, and intuitively, they would probably answer "yes."

"People on the street are easy to ac-

cept these things," says Cohen, now the Robert E. Doherty Professor of Psychology at Carnegie Mellon. "But they turn out to be a lot harder to prove."

Until very recently, the biomedical community has remained skeptical that stress is a risk factor for disease. "It is such a popular topic with the lay public that it caused the scientific community to be anxious—or frankly, stressed—about looking at this field," says stress expert Esther Sternberg, chief of the Section on Neuroendocrine Immunology and Behavior at the National Institute of Mental Health. "The area got a bad rap as being soft science."

That reputation is changing, in no small part owing to Cohen's work to bring the rigors of the scientific method to the study of stress. Those efforts began in earnest with his classic noise studies almost 30 years ago. Since then, Cohen has published more than 150 journal articles and book chapters, received millions of dollars in federal research grants, and been elected to the National Academy of Sciences' Institute of Medicine.

"Sheldon Cohen is a pioneer—if not *the* pioneer—in looking at the relationship between stress and disease," Sternberg says. "He really was one of the first people to bring some solid scientific methodology into the field. It created a firestorm of great excitement."

Only after decades of research is Cohen convincing the medical community that stress isn't merely a benign complaint. It really matters in ways that are more powerful and pervasive than even he ever imagined.

Watertight clinical evidence linking stress to disease has been elusive—partly because stress is so personal and unpredictable, making it difficult to quantify and measure its impact. Rush hour. Deadlines. Caring for a sick loved one. Bills. Job changes. Colicky babies. Divorce. Chores. Loud neighbors. Demands, demands, demands. "Stress is an unavoidable consequence of life," says Paul Rosch, president of the American Institute of Stress and psychiatry professor at New York Medical College. "Without stress there would be no life."

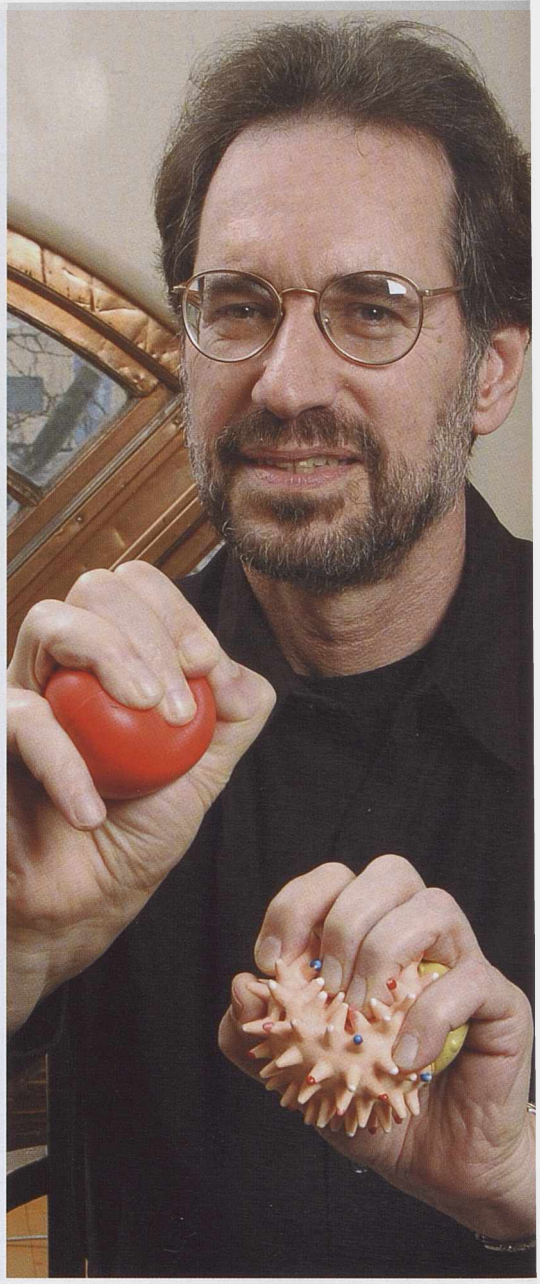
But in studying the relationship between stress and disease, it is difficult to separate cause from effect, says Anna Marsland, Cohen's longtime collaborator and assistant professor of psychology at the University of Pittsburgh. For example, are stressed people more likely to get a postnasal drip because they seek solace from friends and family, thereby widening their exposure to germs? Or perhaps they withdraw from others, sleep and exercise less, and smoke and drink more—behaviors that don't exactly promote good health.

In 1982, when Cohen joined the psychology department at Carnegie Mellon, evidence was accumulating to suggest that stress could alter immune response. It was still unclear, though, whether its effects on immunity were enough to compromise the body's ability to fight infection.

Cohen set out to answer those questions. To conduct the research, he needed to become well versed in virology, immunology, and endocrinology. A 15-year career development award from the National Institute of Mental Health allowed him to pursue his goal. In the course of his studies, he met David Tyrell, a virologist who ran the Common Cold Unit in England.

That unit was established by Britain's Medical Research Council in 1946 to find the cause and treatments for the common cold. Although he never found a cure, Tyrell discovered much of what we know today about cold viruses. Central to his research were trials in which healthy volunteers were inoculated with a cold virus and then quarantined so they could be monitored closely for infection and illness.

Cohen saw a perfect opportunity to piggyback on Tyrell's experiments to determine whether stress predicts who develops colds. In his landmark study at the Common Cold Unit, he had almost 400 subjects complete exhaustive questionnaires that assessed degrees of stress. Next, they were given nasal drops of a cold virus and observed for a week in a controlled environment. Cohen found that the higher the score on his stress index, the greater the probability of catching a cold following viral exposure.



Cohen squeezes the stress out of his day.

It was the first time research provided scientific proof that stress, independent of the unhealthy behavior it causes, is associated with susceptibility to illness. The results, says Marsland, were groundbreaking. "The real beauty of Sheldon's work is that it is very experimental and systematically controlled so that we can draw clear conclusions about the impact of stress on vulnerability to infection."

Cohen's findings appeared in August 1991 in the *New England Journal of Medicine (NEJM)*, the oldest continuously published medical journal in the world. The peer-reviewed journal publishes new research findings on topics of importance to biomedical science and

clinical practice. Historically, it declines to publish results of behavioral studies.

"I had no idea how difficult it is to publish a paper in that journal or how nearly impossible it is to publish anything about psychosocial predictors of health," Cohen says. "I think if I knew then what I do now, I might never have sent it in."

Cohen's *NEJM* article helped to initiate more than 20 years of common cold studies at his laboratory at Carnegie Mellon. Using the same experimental paradigm as he had in Britain, he has determined that just any old stress will not do when it comes to putting people at risk for colds—it has to last at least a month and stem from interpersonal troubles like marital strife or enduring job-related problems.

"That was disappointing," he says. "We thought once we knew what kind of stressors matter, we could isolate them and do some kind of intervention, but when the stressor is a bad marriage or a lousy job, what are we going to do?" He decided to delve deeper into the body in search of explanations for how chronic stress acts to recalibrate our physical machinery.

It is known that stress elevates levels of cortisol. The stress hormone is part of the "fight-or-flight" response. Blood pressure and heart rate increase to prepare for action. The immune system is suppressed as the body concentrates on coping with the present danger rather than maintaining long-term health. The response can be lifesaving in a sudden attack, but it is damaging to the body when activated chronically.

Unexpectedly, Cohen found that the impact of stress on health risk was independent of the hormone response. He believes that hormones still matter, albeit in a less direct way.

What he recently discovered is that prolonged stress interferes with the body's ability to turn off production of pro-inflammatory cytokines. The messenger proteins are produced by the immune system in response to infection. The cytokine outpouring to a viral infection—not the virus itself—elicits the symptoms of a cold. It is a matter of delicate balance. Too little cytokine, and you can't fight off infection. Too much cytokine, and you still feel sick.

Here is where cortisol comes into play again. One of the functions of the stress hormone is to turn off cytokine production. But if there is too much cortisol in circulation, the hormone can't do its job. That means people who are chronically stressed, producing oodles of cortisol, also have excess cytokine, in turn triggering and prolonging a cold.

Last year, the Institute of Medicine, impressed with Cohen's body of research, commissioned him to examine the evidence that stress also influences major diseases. His resulting article, co-written by Carnegie Mellon postdoctoral fellow Denise Janicki-Deverts, appeared in an October issue of the *Journal of the American Medical Association (JAMA),* the world's most widely circulated peer-reviewed medical journal.

"For a lot of years, I've been writing about stress and disease, and we actually know a lot in some areas, but that knowledge hasn't gotten across to the medical community in some coordinated way until now," Cohen says.

The article details a critical mass of studies indicating that stress plays a role in causing or worsening depression and heart disease and in speeding the progression of HIV to AIDS.

Such accumulation of clinical evidence linking stress with diseases is growing hard for the medical community to ignore. The very appearance of articles by Cohen, a psychologist, published in mainstream medical journals such as *JAMA* and *NEJM* suggests that physicians are starting to recognize that biology alone cannot explain all aspects of illness.

"The skepticism is decreasing, and there really is a belief and interest in the role of psychological factors like stress," Marsland says. Cohen and his colleagues want more time, thought, and dollars invested to explore which interventions might reduce stress and whether those strategies then translate into less disease. They also are calling upon clinicians to include the diagnosis and treatment of stress in their routine patient care.

The National Institute of Mental Health's Sternberg urges people with demanding, stressed-filled lives to "do something about it" right now. She suggests people pace themselves at work and take up relaxing exercises such as swimming, walking, or Tai Chi. Most importantly, she says, people should seek support from those who care about them.

"Don't try to do this on your own," she recommends.

Cohen particularly agrees with Sternberg's last bit of advice because he has uncovered substantial evidence that social support can act as a buffer against the dangers of stress. The belief that others are there to provide the extra help you need can bolster your perceived ability to cope with demands and make your problems seem less daunting, explains Cohen.

He applies the findings to his own life. As a high-profile research scientist and active teaching professor, Cohen certainly experiences his fair share of stress. Right now, he is embarking on new projects to explore links between stress and aging and studying whether positive emotions impact well-being. In addition, through participation in a MacArthur Foundation research network, he is trying to understand how childhood socioeconomic status affects health.

Some relief from those demands comes from gardening and playing golf, when time—and his aching back—allow it. Cohen, married to professional dancer and choreographer Mary Miller, tries to surround himself with loved ones, friends, and co-workers to further absorb the blows of stress.

"I don't have any magic pill," he says. "I can tell you what my doctor says—'Reduce your stress.' I always find it amusing when he tells me this." ■

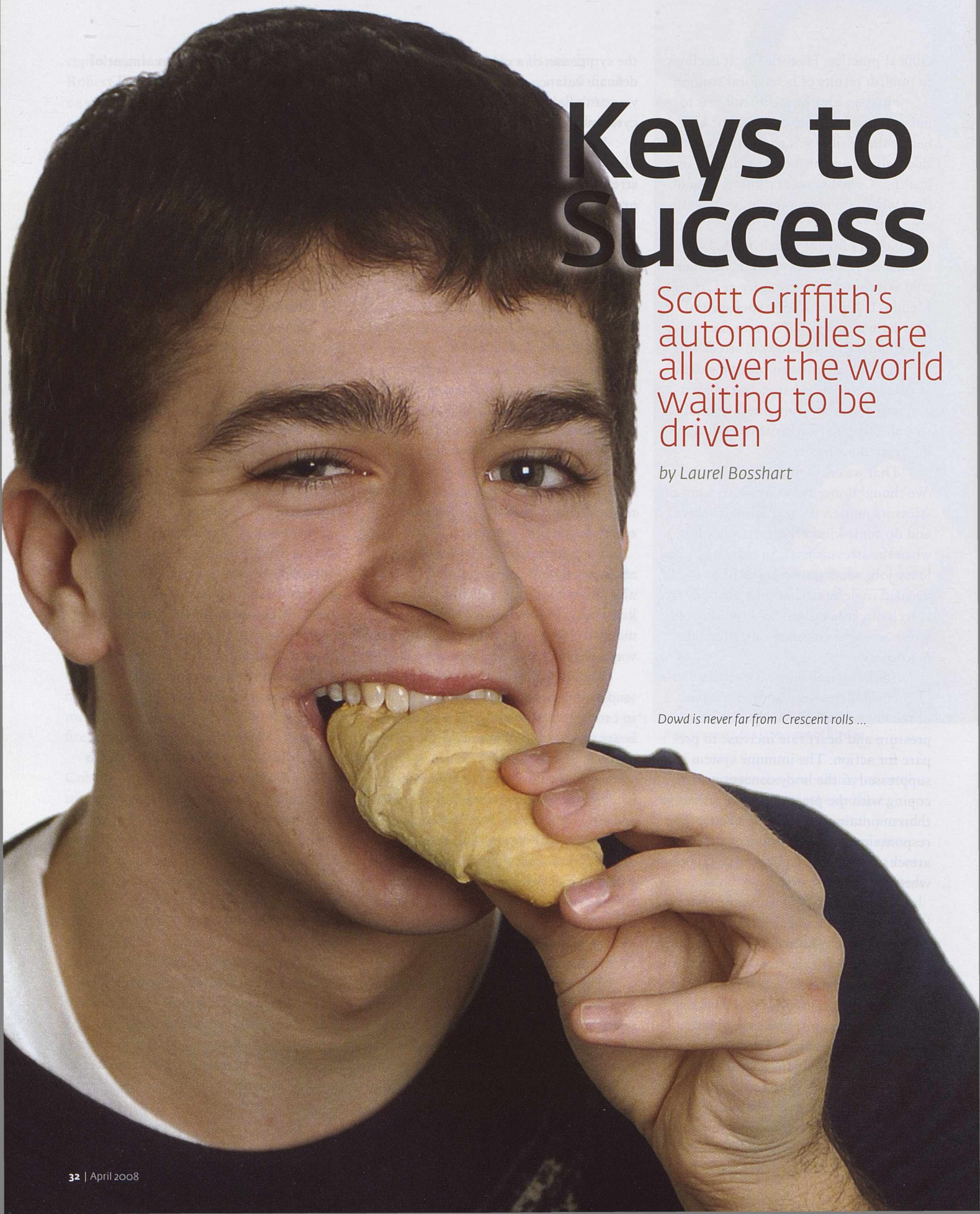
Learn more online: carnegiemellontoday.com

Jennifer Bails is a freelance writer and an award-winning former newspaper reporter. Her work appears regularly in this magazine.

Keys to Success

Scott Griffith's automobiles are all over the world waiting to be driven

by Laurel Bosshart



Dowd is never far from Crescent rolls ...

He could almost smell the soft, flaky bread rising and hear the *ding-ding* of the oven timer. Josh Dowd (S'10) wants a Pillsbury® Crescent roll. But how can he get to the store? Maybe he should break down one of these days and just buy a car. But a car is a lot of money. Plus there is gas, insurance, parking. Forget taking a bus to the store. He doesn't have the patience to stand around waiting for the 61C.

Then he remembers a forwarded email he received from a friend earlier in the day. He quickly goes to his computer and begins scrolling through his inbox. There it is: Zipcar.

A few hours later, Dowd and his roommates were driving to the store in Zipcar's Volkswagen Jetta. Dowd says he used Zipcar 15 times last semester, 14 times for Crescent roll runs and once to take his girlfriend out.

While his girlfriend might be upset over her boyfriend's misguided love for Crescent rolls, Zipcar chair and CEO Scott Griffith (E'81) loves to hear he has another satisfied customer. What's not to like? With Zipcar, after paying an annual membership fee, you pay a flat rate, hourly or daily, for some wheels that include a full tank of gas and designated premium parking places around the campus and city.

Zipcar, which recently merged with Flexcar, is the world's largest car-sharing service, with 180,000 members who have access to 5,000 vehicles in more than 50 markets in the United States, Europe, and Canada, including most major cities. Among the dozens of colleges that have partnered with Zipcar, including Carnegie Mellon, are MIT, Columbia, Georgetown, and Harvard.

Griffith didn't set out to become a CEO. Born and raised in a Pittsburgh suburb, he wasn't sure what he wanted to do. He had a passion for cars and their future. He figured he'd get some answers by becoming a mechanical engineer, and he says he knew just where to go.

It wasn't until his junior year, after taking an economics class, that he began to move more in the direction of business. He did so while the downsizing of the steel industry was all around him. The loss of jobs and economic woes in his hometown devastated him. He couldn't understand how such a giant industry failed to remain innovative. When it came time to find a job, he wanted to work in a transportation industry that he felt "was changing the rules of the game and using technology to do so."

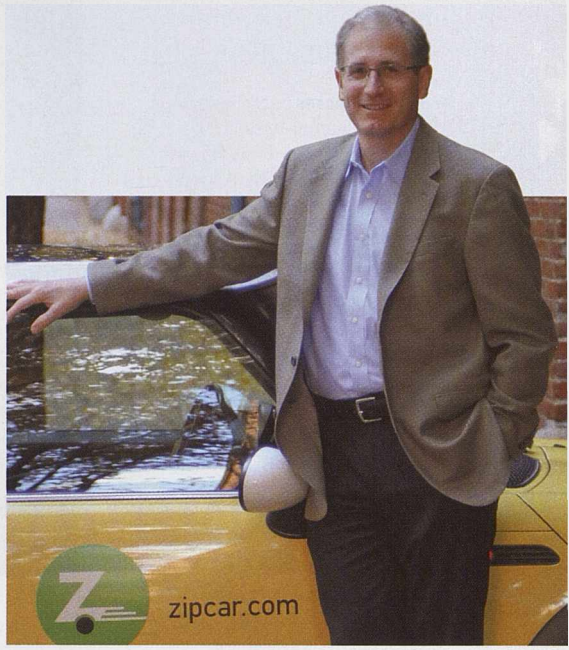
The Boeing Company met his criteria. The auto industry didn't. According to one of his professors, the auto industry was becoming obsolete because foreign companies simply made better cars. "And it started to come back to me," Griffith says, "the issue with the steel industry, and I thought, 'How does this happen? What is it that causes companies to lose their leadership in such critical areas as the design and manufacturing of innovative cars?'"

Thoughts of innovation and how corporate leaders respond to it continued to intrigue him. After seven years in the aerospace industry at Boeing and Hughes Aircraft, he decided he wanted to be a leader. He left his job to pursue an MBA, which he earned at the University of Chicago. His career path sped up shortly thereafter, but it had nothing to do with his MBA. He was diagnosed with lymphoma. The news, while grim, had an unexpected effect.

"The lymphoma was a real motivator. I started thinking about what are my passions, what do I like to do? I always liked cars and information services."

And what company successfully coupled both? Zipcar. "I thought it was entrepreneurial and exciting and sort of hit the hot buttons of transportation services that I had been working on for the last 20 years or so," he says.

Five years later, with Griffith as CEO and his lymphoma in remission, Zipcar has revved up from $2 million to $100 million in annual revenues.



... thanks to Zipcar's Griffith.

"I'm really excited about the way the company is growing. Our business model is changing the way people live and work in their communities. They don't need to own as many cars, and over time I think there will be a meaningful difference in the way people think about car ownership. That's important to me—to be a part of such a big change," he says.

As Griffith reflects on Zipcar's success, he says people often say, "'I think I want to do something entrepreneurial, but I'm not sure what I should do.' And I reply, 'You probably do know what it is. It ought to be something you're really passionate about. What's the first column you read in the paper? Or what stories interest you? What were you fascinated about in junior high or high school? Those are your core passions. They're still the same—they haven't changed. I think we're all a lot happier—and our families are happier—if we're passionate about what we're doing in our day job. If you can find a job and a company in an industry you're passionate about, I think you'll be a lot more successful.'"

And because of Griffith's passion for cars, it's easier for students like Dowd to buy Crescent rolls.

Laurel Bosshart, a former newspaper reporter, is the assistant director of alumni communications.

From the Classes publishes current news about alumni. We will publish all pertinent and timely items; however, we may edit submissions. For more class notes and alumni photos or to submit your item for *From the Classes*, visit carnegiemellontoday.com.

Marriages and births are printed after the fact. For marriages, please submit the full name of the bride and groom and where they live. For births, submit the name of the baby, mother, and father. For deaths, please submit the date of death. For all submissions, include college code (see below) and year of graduation.

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Pittsburgh, PA 15213

College Codes

A	College of Fine Arts
AM	Administration and Management Science
BHA	Humanities and Arts
CMU	Joint college programs
CS	School of Computer Science
E	Carnegie Institute of Technology (engineering)
H	Honorary doctorate
HA	Honorary alumnus(a)
HNZ	Heinz School
HS	College of Humanities and Social Sciences
I	Industries
INI	Information Networking Institute
L	Library School
MET	Master of Entertainment Technology
MI	Mellon Institute, honorary alumnus(a)
MM	Margaret Morrison Carnegie College
PE	Program for Executives
PM	Printing Management
S	Mellon College of Science
TPR	Tepper School of Business
*	Attended



Jimmy Margulies *(A'73) of Paramus, N.J., won the 2007 Clarion Award for editorial cartoons from the Association for Women in Communications for his work shown above.*

1953
Tom Baker (PM) of Waitsburg, Wash., received the Award of Merit from the Walla Walla Valley Chamber of Commerce. During the presentation, he was compared to movie heroes for mentoring students, volunteering as an ambulance driver, and serving on the Walla Walla Community College Foundation. During the 1996 floods in Waitsburg, Baker, who was mayor, helped residents set up sandbags. In 1976, he was named Waitsburg's Man of the Year.

1956
Jon Ramer (E) of Winter Park, Fla., recently returned from a month "down under" in Australia, Fiji, and New Zealand. When he is not "down under," he is a member of the bass section of the 160-voice Bach Festival choir, which featured Carmina Burana and Mahler Symphony 2. He has 10 grandchildren within a 40-minute drive.

1959
Henry W. Cummings (E) of St. Charles, Mo., closed his solo legal practice after 20 years as a trial attorney in St. Louis. His specialty was intellectual property law, which protects creative entities and their inventors. In 1982, he was recognized with an award from Legal Services of Eastern Missouri, Inc., for more than 10 years of service to the Volunteer Lawyers' Program. He was also granted a patent in 1998 for his invention, a variable replacement diesel engine. Prior to starting his own business in 1987, he served as legal counsel for American Car and Foundry, Boeing, P.R. Mallory, and Olin Mathieson.

1961
Gerald Gurland (A) of West Orange, N.J., was named acting president of the Congress of International Modern Architects in June. More recently, in October, Gurland was honored by the Drew University Center for Holocaust/Genocide Study in Madison, N.J., as a charter member of the center for 15 years of service.

1963
David Eisenhauer (A) is living in Stockholm, Sweden, and reports that although the city was "provincial" upon his first visit in the fall of 1963, it is "now much more cosmopolitan," and he "loves living and practicing architecture in the middle of Stockholm." He also enjoys sculpting in his spare time. On occasion, he catches up with **Ken Schwarz** (A) when he is in town on business. Please email your news to **Jebby Potter** (A): jebbypotter@aol.com.

1970
Patti Louis Call (HS) of Wayzata, Minn., was elected to the CMG Designs, Inc., Board of Directors. She was chosen by her peers for outstanding achievements in color and design expertise. She is a long-term member of CMG.

1971
Marcel Boyer (HNZ'71, '73) of Mt. Royal, Canada, recently presented an overview of the Frontier Centre's inaugural Local Government Performance Index, a unique tool for assessing municipal performance, in Montreal. He is vice president and chief economist for the Montreal Economic Institute.

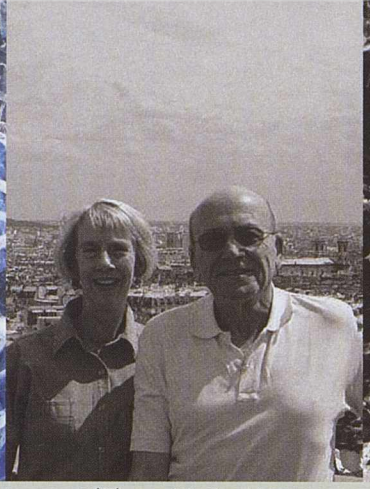
1973
Tim Bomba (HS) of Valley Village, Calif., completed his first Ironman Triathlon at Coeur D'Alene, Idaho. The Ironman consists of a 2.4-mile lake swim, 112 miles by bike, and then a 26.2-mile marathon, all in the same day. Participants must complete the event in 17 hours. Bomba completed it in 14 hours, 45 minutes.

1977
Deborah Brannick Lafky (HS) of Camas, Wash., recently joined the Office of the National Coordinator for Health Information Technology at the U.S. Department of Health and Human Services. In her new position, she focuses on information security and privacy standards within the development of the National Health Information Network. Previously, she was a research associate at the Kay Center for E-Health Research of Claremont Graduate University in Claremont, Calif., where she is preparing to defend her doctoral dissertation. She welcomes contact from alumni and students with an interest in healthcare information systems.

1978
Edward L. Ritter (E) of New Freedom, Pa., joined Barton Associates in York, Pa., as a controls and commissioning manager.



Mary Tinker Hatch *(A'56) of Wayland, Mass., recently showed her work at the Danforth Museum in Framingham, Mass., and the Bromfield Gallery in Boston. She was also curator of the show* DRAWN IN *at the Gibbs Gallery in Arlington, Mass.*



Harry Williams *(A'58), with Tessa Robbins, retired from stage acting in 1998 and lives in both the United States (Reno, Nev.) and England (East Sussex).*



Barbara Richardson *(HS'74, '83), center, of Seattle, writes, "***Diane Biel Morelli** *(E'74), left, of Flower Mound, Texas,* **Nancy Pasqualini White** *(E'74), right, of Walnut Creek, Calif., and I reunited in June at Nancy's home. Over a long weekend, we caught up with each other's lives, explored San Francisco, and partied just a little (OK, a lot). Diane teaches fifth grade in the Dallas area, following a long career as an executive at Clairol. Nancy co-owns a telecommunications rep company with her husband. And I am a senior marketing communications manager at Fluke Corporation in Everett, Wash."*

1980

Scott W. Sibley (E) of King of Prussia, Pa., was named a vice president with Gannett Fleming, an international planning, design, and construction management firm. Sibley, based in the firm's Valley Forge office, is a project manager of the transportation division.

1981

Mary Schuchman Hendley (HS) of Birmingham, Ala., has been elected to the Board of Directors of the Public Radio Association of Development Officers. She has been in fundraising for more than 18 years, with the past five as development director and assistant general manager for WBHM (90.3 FM) and WSGN (91.5 FM) public radio in north-central Alabama.

1982

Jacqueline Wilkie (HS) of Decorah, Iowa, was named director of the Paideia Program at Luther College. The latest in a series of core academic programs established in 1964, the Paideia curriculum consists of three required interdisciplinary courses: a common two-semester sequence for first-year students (Paideia I) and a series of one-semester courses for juniors and seniors (Paideia Capstone). The program also includes support for a Humanities Lecture Series and an interdisciplinary journal, *Agora*.

1984

Karl Murphy (E) of Rockville, Md., co-founded Robotic Research, LLC, an engineering firm in Gaithersburg, Md. Formed in 2002, Robotic Research employs engineers with expertise in autonomous ground solutions (e.g., moving a robot the size of a small tank) and has grown from a 14-member team to a varied international staff. Other projects for Murphy's company include sensors worn on a uniform used for mapping a building and tracking personnel, naval applications for navigation, tactical behaviors, processing multiple requests for command and control, and a program developing "emotional robots."

1986

James Boshears (HNZ) recently accepted a position at ViaHealth of Rochester located in Rochester, N.Y. Previously, he was employed at Arizona State University as human resources manager for payroll. He writes that he "accepted the new position as a strategic policy director to assist with new system changes, compliance directives, and organizational management. Challenges are to lower operating costs by moving the health system into 21st-century compliance with automating systems, reducing manual processes, and structuring policy and procedural changes."

1990

Rebecca Cantrell (HS) of Kailua Kona, Hawaii, wrote her first novel, *Even Smoke Leaves a Trace*, which is scheduled to be published in 2009. The novel follows an undercover crime reporter in Berlin, Germany, in 1931 as she searches for her brother's killer, a trail that leads from the city's dark underbelly to the top ranks of the rising Nazi party. For more information, please visit www.rebeccacantrell.com. **Brian Gill** (HS) of Concord, Mass., joined Mathematical Policy Research Inc. as a senior social scientist. His research addresses a range of issues in K-12 education. He formerly worked for the RAND Corp. in Pittsburgh. **Mark Klingler** (A) of Lower Burrell, Pa., illustrated the book, *A Field Guide to the Natural World of New York City*, published by Hopkins Press. He created 100 full-color illustrations depicting more than 130 species of insects, birds, mammals, and plants in water color. There was a kick-off at Gracie Mansion with Mayor Bloomberg in New York City.

1991

Dan Holland (HS'91, HNZ'02) of Pittsburgh has been named one of Pittsburgh's "Top 40 Under 40." *Pittsburgh* magazine and the Pittsburgh Urban Magnet Project sponsor the program that recognizes 40 people younger than 40 who are committed to shaping and improving the local region. Holland is founder and chair of the Young Preservationists Association of Pittsburgh.

1992

Joseph Hasper (A) was music arranger for the Holland Symphony Orchestra's Petal Pops concert in June 2007. Under the direction of Johannes Stoch-Muller, the orchestra performed 16 of Hasper's arrangements, comprised of music from the swing and big band era. He currently is working on two new pieces for the Carolina Cool Jazz Orchestra, which has performed six of his compositions in concerts. He would welcome proposals from other Carnegie Mellon alumni to collaborate on theater or film projects. **Steve Peters** (HS) of Portland, Ore., sold the Web development firm he founded, AMAZING!, to OpenSourcery of Portland. Founded in 1995, AMAZING! provides Web development services, specializing in clients with an educational mission or education-related products. Peters will stay on with OpenSourcery. **Michael Remson** (A) was promoted to executive and artistic director at American Festival for the Arts in Houston, Texas. He writes, "In addition to my role at the AFA Summer Music Conservatory, I maintain an active composing schedule and am on the faculty of the Moores School of Music (University of Houston) and the Houston Ballet. I am especially proud that my niece, Alex Charnas, is currently a Carnegie Mellon undergrad."

1994

Kevin Boyle (IM) of Sellersburg, Ind., has been named vice president and treasurer of American Commercial Lines Inc. in Louisville, Ky. Previously, he was director of planning and development for Great Lakes Transportation, sold to Canadian National Railway Company. From 1998 to 2001, Boyle worked for Seabulk International, where he rose to the position of treasurer.

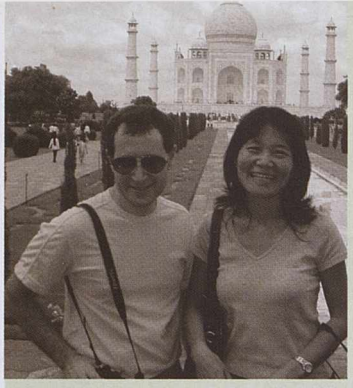
1996

Nate Barlow (E) of Burbank, Calif., is vice president of New Media/Creative Executive at Automatic Pictures (production company of *There's Something About Mary*). In 2006, he married **Debra Boyle** (A'02), whom he met serving on the university's West Coast drama alumni Board of Directors (he is still on the board). Also, he co-directed, wrote, and starred in *Tales from Beyond* with **Eric Manning** (E), formerly Eric Knitwess, of Los Angeles, in addition to acting in commercials and numerous independent films. **Andy Brinkmeier** (E) and **Lori Capp Brinkmeier** (HS) of

Fishers, Ind., welcomed Abigail Grace in September 2006. The couple also have a four-year-old son, Austin. Andy is vice president of development for Oldcastle APG. In April 2008, they will relocate to Charlotte, N.C. **Katherine Bates Salvi** (A) gave birth to a son, Harrison Reid. Salvi is "happily working in the art world" in New York City and writes that she continues "to keep up with the great friends I met my first day at Carnegie Mellon: **Anne Castle Santulli** (A) of New York City, **Courtney Booker** (A) of Carmel, Calif., and **Holly Egan** (A'97) of San Alsemo, Calif., amongst others." **Jeremy Toeman** (HS) of San Francisco, Calif., has a lot of news, starting with his baby, Samuel Eric Toeman, born in May of 2007. **Adam Donshik** (A'98) attended the traditional Jewish bris. Toeman recently founded Stage Two Consulting, a new media marketing consultancy servicing consumer technology companies. His last startup, Sling Media, was just acquired by EchoStar for $380 million. **Steve Woyicki** (IM) lives in Northern Virginia and manages a SAP technical consulting practice at IDS Scheer. He recently enrolled in the University of North Carolina-Chapel Hill's OneMBA program, a global partnership MBA program of schools on four continents. In his free time, he home brews beer with **Randy Woyicki** (IM'99) of Centreville, Va., and **Greg Blank** (E'99) of Washington, D.C.; runs marathons; and takes Muy Thai kickboxing. **Sindu Maliakal Meier** (A) of Milton, Mass., works with **Mark Finneral** (A'74) of Brookline, Mass., and **Susannah Baker** (A'98) of Cambridge, Mass., at Perkins+Will. Meier writes, "**Seth Berkowitz** (A) of Somerville, Mass., helped us renovate the basement, and we recently celebrated its completion with him over for dinner and wine coolers. **Geoff Meier** (A) went home to Madison, Wis., over Columbus Day weekend and saw **Jessica Klehr** (A), who lives there." Please email your news to sindu.meier@perkinswill.com.

1997

Katherine Wickiser (HS) of Egan, Minn., writes, "I just came back from attending Homecoming and can't believe the changes on campus since we graduated. I would love to see more 1997 grads at our 15-year anniversary in 2012. I am back in school to become a registered nurse. I had been premed my first semester at Carnegie Mellon, so it feels like I am getting back to my roots by getting into the medical field."



Jay Libove *(S'90) of Atlanta, with his wife Yoshiko Yamabe, is approaching his 10th year with Delta Air Lines, the past three in Privacy and Information Security Governance. He enjoys his role as the privacy "subject matter expert" for all of Delta Air Lines worldwide, including regular travels to many countries.*



Lize Mogel *(A'92) of New York City recently curated and organized* An Atlas *at the Los Angeles Contemporary Exhibitions. An Atlas is a traveling exhibition of artists working with "radical cartography"—a practice that uses maps and mapping to promote social change. The 10 participating artists, architects, and collectives take on issues from globalization to garbage and explore the map's role as a political agent.*

1998

Tiffany Jastrzembski (HS) of Mesa, Ariz., has accepted a government civilian cognitive psychologist research position at the Air Force Research Laboratory, Performance and Learning Models Team, directed by **Kevin Gluck** (HS'97,'99) of Phoenix. She interned with the lab in the summer of 2005 and returned in 2006 as a National Research Council postdoctoral fellow. She presented that work at the 2006 I/ITSEC Conference, where her group's paper, "Knowledge Tracing and Prediction of Future Trainee Performance," won the Best Paper Award. She was also awarded the 2007 Arnold M. Small Distinguished Service Best Student Paper Award at the Human Factors and Ergonomics Society annual meeting for her doctoral research, titled "Error Extensions to GOMS Modeling: Age-Related Predictions of Error in a Mobile Phone Task," supervised by **Neil Charness** (HNZ'71, '74) of Tallahassee, Fla. **Caroline Treadwell** (A) recently debuted her play, *Los Angeles*, at the Lillian Theater in Hollywood, Calif. The comedy presents a gallery of 10 Generation X'ers confronting being adults and relating to other people and simultaneously trying to make their own marks in the world. Treadwell has numerous credits as a producer, director, and actor, many with American Studio Theater, of which she is a founding member, including *A Dream Play*, *Measure for Measure*, *The Trojan Women*, and *Richard III*.

1999

Russ Joseph (E) of Evanston, Ill., received the National Science Foundation Career Award. He received the award for his proposal "Hardware/Software Support for Probabilistic Architectures." He will use the award to develop microarchitectural and system software models as well as methodology and enhancements to improve the power, performance, and reliability of multicore microprocessors. He is an assistant professor in electrical engineering and computer science at Northwestern University. **Kristen Williams** (HS) of Arlington, Va., is one-half of Basso Moderno Duo, which has commissioned more than 100 lyrical works for solo bass and piano by some of the world's most prominent and exciting living composers. Williams accompanies on piano bassist Allan Von Schenkel. She is the executive director of the Great Noise Ensemble, Washington, D.C.'s premiere contemporary classical chamber music group.

2000

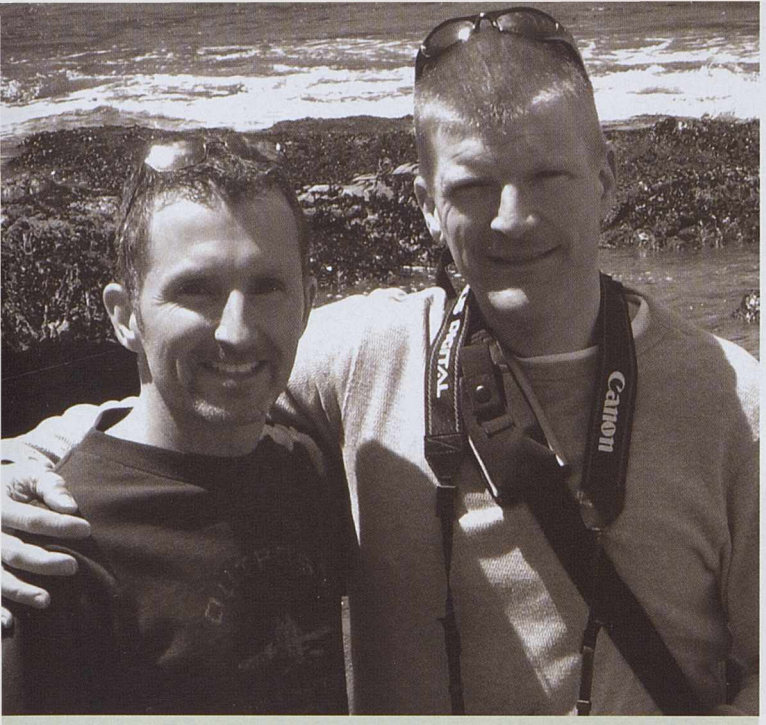
Deborah Kruglak Gilman (HS) of New Albany, Ohio, is a third-year pediatric psychology fellow at Nationwide Children's Hospital in Columbus, Ohio. She specializes in stress and pain management and medical compliance. In addition to clinical inpatient and outpatient therapy, she conducts a variety of clinical research. For the past two years, she has been working on a multisite National Institutes of Health–funded grant examining a behavioral treatment to increase calorie intake in toddlers with cystic fibrosis. She earned her doctoral degree in school/clinical psychology at Tulane University in New Orleans, La. **Dave Hui** (S) of Cambridge, Mass., created a Web site that sells singing telegrams, delivered over the phone, from workers in India. Dave writes, "It is a new take on outsourcing, and our customers so far are getting a kick out of it. Many of them are young professionals who are familiar with trends in outsourcing. He adds that the company has been covered in some local Boston press as well as Boston NPR. **Carissa Vivirito** (A) of Scottsdale, Ariz., published her first book, *You Can't Get There from Here*, which she describes as a unique, educational, and fun read, with a companion Web site offering additional content and original songs she wrote (to go with the book). She has already had endorsements from Seth Godin (*Purple Cow*, *The Dip*, etc.), Jeffrey Eisenberg, and **Jodi Forlizzi** (A'97, CS'07).

2001

Alexander van Gaalen (A'01, '02) of New York City writes, "**Kirstin Oswald** (E'06) and I are co-chairs of the Intellectual Property and Technology Association at Brooklyn Law School. **Erik Dykema** (E'00) is the vice president."

2002

Vijay Palaparty (HS'02, '03, '05) of Washington, D.C., wrote *Alekhya: Spilling Ink*, a dance theater production, in which he also performs. The performance, which features the dance and music traditions of South India as well as English poetry and theater, premiered recently in Chennai, India. **Jennifer Schaupp** (HS'03) of Pittsburgh served as theater artist and literary consultant for the production.



Timothy Dean *(TPR'93), left, of Oakland, Calif., with partner Scott Ernst, is now marketing manager for Manex Consulting, San Ramon, Calif.*

2003

Adam Grossi (A) of Pittsburgh has been named 2007 Emerging Artist of the Year. Some of his artwork was on display at the Pittsburgh Center for the Arts in the fall of 2007, including "Ready for Anything," "Scale," "When We're Home Again," and "Yourself Again." The *Pittsburgh Post-Gazette* wrote, "Adam's work is engaging in a tug of war with the history of painting, playing upon cultural expectations for the medium while pushing its boundaries."

2004

Darren Shultz (E) of Pittsburgh is the vice chair and co-founder of the Pittsburgh High School Ultimate League Scholarship Endowment, which has recently passed the $40,000 mark in the third year. The scholarship is awarded to students who show leadership, academic proficiency, and playing ability within the Ultimate Frisbee™ community in the greater Pittsburgh area.

Marriages

Jesus Jimenez (E'98) and Maria Jimenez 06/2004

Anthony Lalli (S'91) and Sharon Lalli 05/2006

Arun Prasad (E'94) and Tiffany Randall 05/2007

Matt Brun (E'02, '03) and **Julie Watt** (HS'03) 07/2007

Geoffrey Kavulya (A'06) and **Soila Pertet Kavulya** (E'04) 07/2007

Kathryn Warren Whitlatch (TPR'03) and Randy Whitlatch 08/2007

Jonathan Bascug (HS'96) and Erin Walker 09/2007

Jay W. Beatty (TPR'04) and Mari Kawamura 09/2007

Abraham J. Levine (HS'04) and Deborah Finestone 09/2007

Nicole Owings (HS'02) and Jed Fonner 09/2007

Jonathan Robinson (HS'05) and **Jennifer Eng Robinson** (CMU'05) 09/2007

Births

Jesus David
to **Jesus Jimenez** (E'98) and Maria Jimenez 09/04/2005

Connor Jackson
to **Kristin Miljus Kelly** (S'95) and Michael Kelly 03/06/2006

Madeleine Jeanette
to **Nicole Abinanti** (S'95) and **Mitchel Kotula** (E'96) 11/28/2006

Harrison Reid
to **Katherine Bates Salvi** (A'96) and Vincent Salvi 12/14/2006

Finnian Christopher
to **Rebecca Trombley Domegan** (HNZ'97) 02/12/2007

Sofia Pilar
to **Kina Farber Martin** (E'94) and Manuel Martin 03/27/2007

Ian
to **Kimberly McGraw** (S'91) and Karl Pupke 05/20/2007

Thomas Owen
to **Heather Wasilowski Strong** (A'93) and David Strong 06/06/2007

Michael
to **Lindsay Samora** (E'99) and Michael Samora 06/11/2007

Danielle Esther
to **Bill Hammerschlag** (E'83) and Francine Hammerschlag 06/12/2007

Rising Star

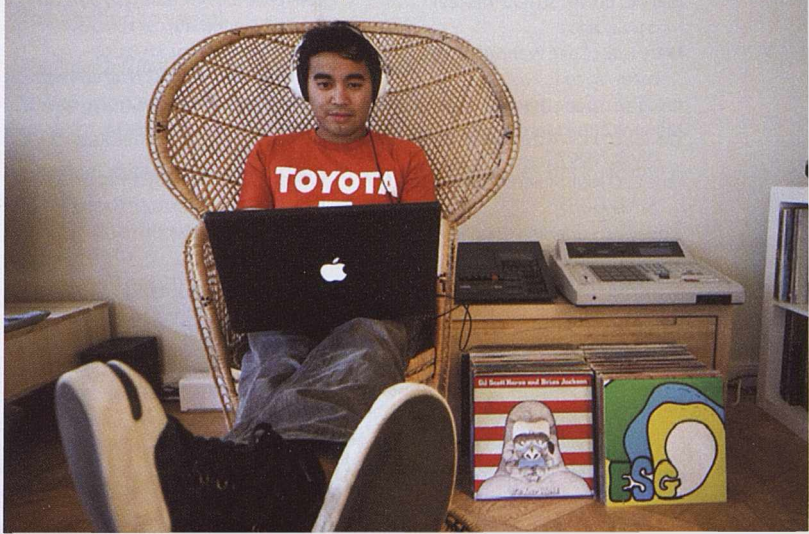
Don't bother asking **Freddy Anzures** about the technological gadgets he's working on at Apple these days. A designer for the computer company since 2004, Anzures has helped create the look of everything from icons on the Mac's desktop to Dashboard widgets (mini software applications that look like real objects). Most recently, he joined the Apple team that created iPhone, which debuted to the tune of 200,000 first-day sales. So for corporate secrecy's sake, mum's the word on Anzures' current projects.

Apple, however, is the last thing Anzures, a 1999 industrial design graduate, would want to discuss anyway. He'd rather tell you about the Bay Area flea market he frequents for vintage furniture, books, and records; or his gig designing sleeves for a local record label; or even being a DJ. Quite frankly, work isn't his be-all, end-all. "The more you live, the better you'll design," he says.

Anzures, 31, took that adage to heart during his time at Carnegie Mellon. After a stressful junior year, Anzures took a year off to discover what he wanted to do professionally. He spent six months interning at Converse outside Boston, creating color and texture proposals for the classic canvas footwear, followed by another internship designing housewares in New York City. While footwear and kitchen goods didn't inspire him, the disparate work experiences did give him a renewed sense of purpose when he returned to Carnegie Mellon.

"The intention I had was to be a creative problem solver, not a particular kind of designer," he says. "I'm still working toward that." — *Chris A. Weber*

Anzures wearing, using, sitting on, and surrounded by some of his favorite things.



Births

Zoie Sophie
to **Gregg Lebovitz** (E'82)
and Alla Balashova 06/15/2007

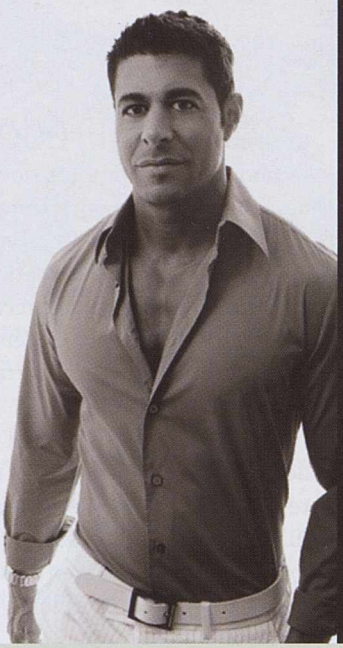
Luke Benjamin
to **Todd Justman** (TPR'03)
08/26/2007

Adoptions

Alex Zevedei
to **Jesus Jimenez** (E'98) and
Maria Jimenez in 2005.
Alex was born on 02/07/2000.

Deaths

Christopher J. Schorsch (E'33) 03/21/2007
William A. Bostick (PM'34) 08/15/2007
Minnie B. Belle Hoch (L'35) 01/01/2007
Michael Voytilla (E'35) 07/12/2007
Eliza Miller (A'36) 09/03/2007
Helmer A. Backstrom (E'37) 07/14/2007
George A. Jonic (E'37) 05/30/2007
Elizabeth Gurley Durso Wilmot (MM'37) 11/20/2007
Benjamin S. Hargrave Jr. (E'38) 05/01/2007
Winifred Marie Sullivan Bell (A'39) 03/11/2007
John E. Swearingen (E'39) 09/14/2007
Irene A. von Horvath (A'39) 09/06/2007
Charles N. Erb (E'40) 09/09/2007
Margaret McCredie Friedel (MM'40) 11/18/2006
Nancy M. Borie Glamser (MM'40) 04/24/2007
John F. Hollerbaugh (E'40) 11/04/2006
John A. Stanley (PM'40) 04/15/2006
Tom R. Day Jr. (E'41) 09/2006
Eva M. Rasch Loynd (MM'41) 08/29/2007
Charlotte F. Feldstein Pomerantz (A'41) 12/22/2006
Eleanor O. Oshry Shatzkin (MM'41) 01/19/2007
Donald E. Stingel (E'41) 09/06/2007
Florian J. Zukas (E'41) 07/11/2007
Thomas R. Critchlow Jr. (E'42) 11/02/2007
Madeline W. Forsythe Minchin (MM'42) 12/28/2006
Mary C. Bower Stroud (MM'42) 03/24/2007
Mary E. McGhee Wehrum (MM'42) 01/01/2007
Joseph L. Young (A'42) 08/23/2007
Marion Louise Morgan (MM'43) 08/24/2007
Jane C. O'Neill Shearer (MM'43) 01/04/2007
Sidney W. Hagerling (E'44) 10/2007
Martha Louise Wainwright Jones (MM'44) 11/21/2007
Robert J. Riddell Jr. (S'44) 08/16/2007
Maris T. Sgriccia (E'44) 09/27/2007
Joyce Mallett Sink (A'44) 02/07/2007
Donald C. Worth (S'44) 07/28/2007
William Dubyk (E'45) 10/09/2006
Donna E. Fenner (L'45) 04/03/2007
Priscilla A. Dodge Gardner (A'45) 09/27/2007
Anna M. Longridge Lenahan (MM'46) 05/26/2007
Pauline Carpenter Manning (L'46) 04/04/2007
Lucille Weigle Nestor (MM'46) 06/30/2007
Clarence W. Spangle (E'46) 09/16/2007
Gerald S. Brickman (E'47) 05/16/2007
Simon Foner (S'47) 10/02/2007
John J. Goodill (E'47) 08/07/2007
Hamilton M. Whitlinger (A'47) 10/30/2006
Lawrence S. Cook (E'48) 02/09/2007
David T. Fleck (E'48) 07/15/2006
John J. Gell (E'48) 04/21/2007
Elmer B. Kaelin Jr. (E'48) 09/14/2007
Wilmer A. Kerr (E'48) 05/15/2007
Thomas M. Leverette (E'48) 06/30/2007
William G. Rudy (S'48) 07/29/2007
John F.Stakel (E'48) 10/30/2007
Irene E. Surenda Wourms (A'48) 12/20/2006
Henry L. Brenton (E'49) 07/09/2007
Frank Porell (E'49) 09/07/2007
Willis R. Thompson (A'50) 09/15/2007
Ralph P. Triplett (E'50) 10/18/2006
Lois Cohn Lewis Bialosky (MM'51) 09/24/2006
Arthur N. Curren (E'51) 04/18/2007
Russell Johnson (A'51) 08/07/2007
Henry R. Killian (E'51) 11/03/2007
Michael E. Melnichak (S'51) 06/14/2007
Douglas E. Noll (E'51) 09/28/2007
Robert W. Jaross (E'52) 08/14/2007
Jeruel L. Magner (E'52) 10/16/2007
Joseph G. McElhaney (E'52) 07/26/2006
Marilyn F. Oesterling Nicolini (A'52) 07/09/2007
William R. Bitler (S'53) 04/18/2007
William S. Jones (IM'53) 11/11/2007
Joyce C. Edelblute Eastwood (MM'54) 10/24/2007
Robert H. Wright (PM'54) 09/27/2007
Orion A. Templeton (E'55) 08/06/2007
Joel B. Levinson (E'56) 10/26/2007
George N. Pauly Jr. (A'56) 08/27/2007
James E. Walden Jr. (PM'56) 07/29/2007
Sara Zide Daspin (A'57) 08/14/2007
Theodore J. Fleming (PM'57) 09/03/2007
M. Carolyn Witt Gorman (MM'57) 08/10/2006
Gerald M. Pittler (E'57) 10/08/2006
Richard N. Bernstein (A'58) 12/28/2006
John D. Eddinger (E'58) 08/27/2007
William D. Meinert (E'58) 09/23/2007
Raymond R. Trojan (E'58) 07/29/2007
John G. Kunesh (E'59) 07/29/2006
William E. Levers (E'59) 01/13/2007
Nicholas R. Worth (A'60) 05/01/2007
Jean F. Wilmouth Jr. (A'61) 11/09/2007
Damiano G. Maruca (A'62) 08/26/2006
Joseph M. Matesa (E'64) 02/01/2007
Elbert E. Whitlatch Jr. (E'65) 08/09/2007
Lee E. Brecher (E'66) 02/15/2007
Stanley M. Coulter (E'67) 08/16/2007
J. Larry Riddle (A'67) 10/12/2007
John C. Suesse (A'67) 08/17/2007
Paul J. Jablonski (E'68) 03/29/2007
Bruce A. Black (E'69) 11/05/2007
James F. Meyers (E'69) 10/12/2007
Douglas M. Gross (HS'71) 05/01/2007
Beverly Fico Brown (S'72) 06/16/2006
Karen Mae Sjoberg (A'80) 08/28/2007
William J. Cadman III (A'81) 06/07/2007
S. Roger Cox (A'81) 06/30/2007
Peter T. Cowell (A'82) 08/14/2007
Edward Blair Gallagher (HS'83) 10/06/2007
John J. O'Connor (HNZ'86) 08/28/2006
John C. Henigin (E'87) 01/22/2007
Patricia Painter (HNZ'88) 08/31/2007
Louisa T. Reynolds (HNZ'88) 08/04/2007
Martha E. Myer (TPR'89) 10/11/2007
Jeffrey Carl Jacobsen (TPR'96) 09/14/2007
Lisa Raye Kouvolo Priano (HNZ'98) 09/25/2007
Patricia Chon (HS'06) 10/13/2007





Christopher Palumbo *(HNZ'96) is the CEO of elements™, a diet and fitness club chain for women. It has grown under his direction from two locations to 25 internationally, with a franchising program that will increase the locations to more than 200. He lives in Manhattan, N.Y., and Miami Beach, Fla.*

Kristine Tallent *(HNZ'99) of Seymour, Tenn., received Maryville College's* 2007 Kin Takahashi Award for Young Alumni. *The award, presented by President Gerald W. Gibson, is given to an alumnus or alumna "who has, within 15 years of graduation from Maryville College, lived a life characteristic of college legend Kin Takahashi, who worked tirelessly for the betterment of his alma mater, his church, and his society." Tallent is the finance manager for the city of Maryville, Tenn.*



Gaelen McCormick *(A'04), top right above, of Rochester, N.Y., plays double bass with Quartsemble, a Rochester-based chamber music group that performs classical masterpieces side by side with Latin music and a more contemporary repertoire.* Quartsemble: Tango *is the group's first CD. Members of the group are, from left, Diego Garcia, Mark Anderson, McCormick, Karine Stone, and Angel OuYang.*

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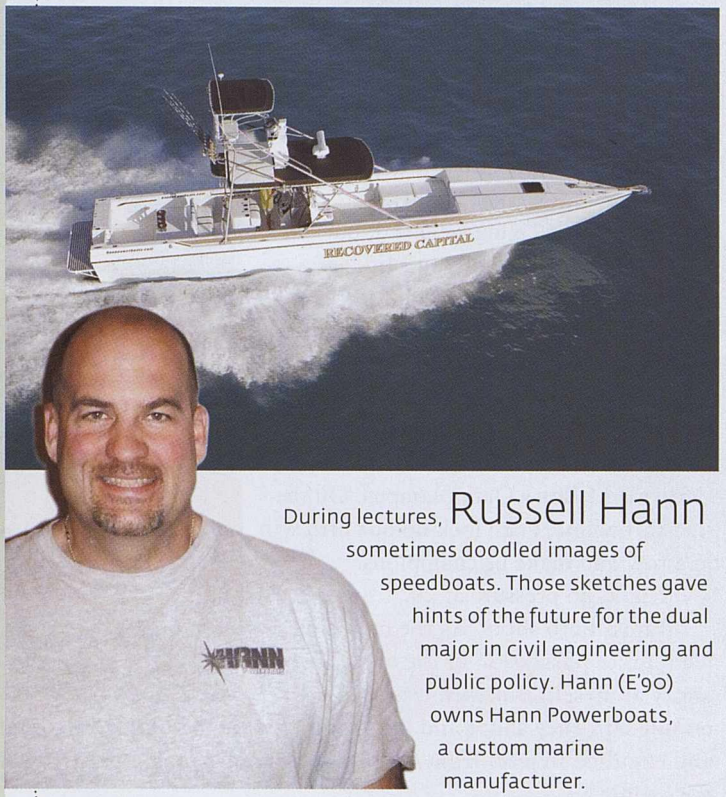
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THISTLE



During lectures, **Russell Hann** sometimes doodled images of speedboats. Those sketches gave hints of the future for the dual major in civil engineering and public policy. Hann (E'90) owns Hann Powerboats, a custom marine manufacturer.

You sold a company to go build boats. How exciting was that?

It was a rush. Fourteen years ago, I quit working as an environmental engineer to start a consulting firm that audited power, gas, and phone bills to get refunds for big companies. We were very successful, but I decided to take the plunge and go into boats full time last year because that was my passion.

Describe your fantasy boat.

It'd have to be a cigarette-shaped vessel with a center console. I like to go fast, so I want a boat that rides like an offshore racer but is completely fishable. My idea is, get offshore, go a hundred miles, catch your fish, and get back quickly. If you want a cabin or a bathroom, buy a condo.

How much of your engineering degree do you use?

All of it. Engineering is about problem solving, and boats offer the greatest challenge because everything is a trade-off, from weight to handling to speed.

You have a Navy contract; what are the details?

We're building a training boat designed to handle two- to three-foot seas with 10- to 15-knot winds. It also must be able to travel 80 nautical miles offshore to run a mission and 80 miles back, which is no small feat.

What's next?

I want to continue working with the Navy, particularly with their special operations forces. ... I also want to build a biodiesel boat that runs on purified vegetable oil from restaurant fryers. I believe it can be done. — *Gaetano Pollice*



Megan Larcom (TPR'10), right, returned to Pittsburgh for the spring semester, where, along with her studies, she is on the crew team. She misses Qatar (and her basketball teammates) and hopes to visit again.

WITH 1:20 LEFT in the championship game, we are losing by one point. The basketball is in my hands. I am on the free-throw line. My six anxious teammates tell me there is no pressure.

No pressure? Yeah, right.

It is Thanksgiving weekend, but I'm not home with my family in Middletown, R.I. Instead, I am in the small Middle Eastern country of Bahrain playing in an intercollegiate basketball tournament with my teammates, who represent six different countries and have varying skill levels. We are the first women's athletic team at Carnegie Mellon's Qatar campus. On the free-throw line, I can lock up our fifth win in a row and make us champions.

Right, no pressure at all.

I miss both shots. As the opposing team takes possession of the ball, I am angry at myself. But with less than a minute left, they shoot and miss, and I get the rebound. Surrounded by defenders and engulfed in jeers from the opposing team's fans, I drive toward the basket. I miss again.

Just two days before this commotion, I was eating a quesadilla for Thanksgiving dinner. If you had asked me then why I chose to study at Carnegie Mellon's Qatar campus, I would have said the answer was simple.

I had yet to ride a camel.

Halfway through my four-month exchange-student semester in the Middle East, I still hadn't trekked on a camel, but I had made a hasty conclusion: There was nothing to love about Qatar. India has the Taj Mahal. Egypt has the Great Pyramids. Jordan has Petra. And Qatar, well, Qatar has Doha, a developing metropolis surrounded by 4,412 square miles of sand dunes, camels, speed bumps, construction sites, and liquid natural gas.

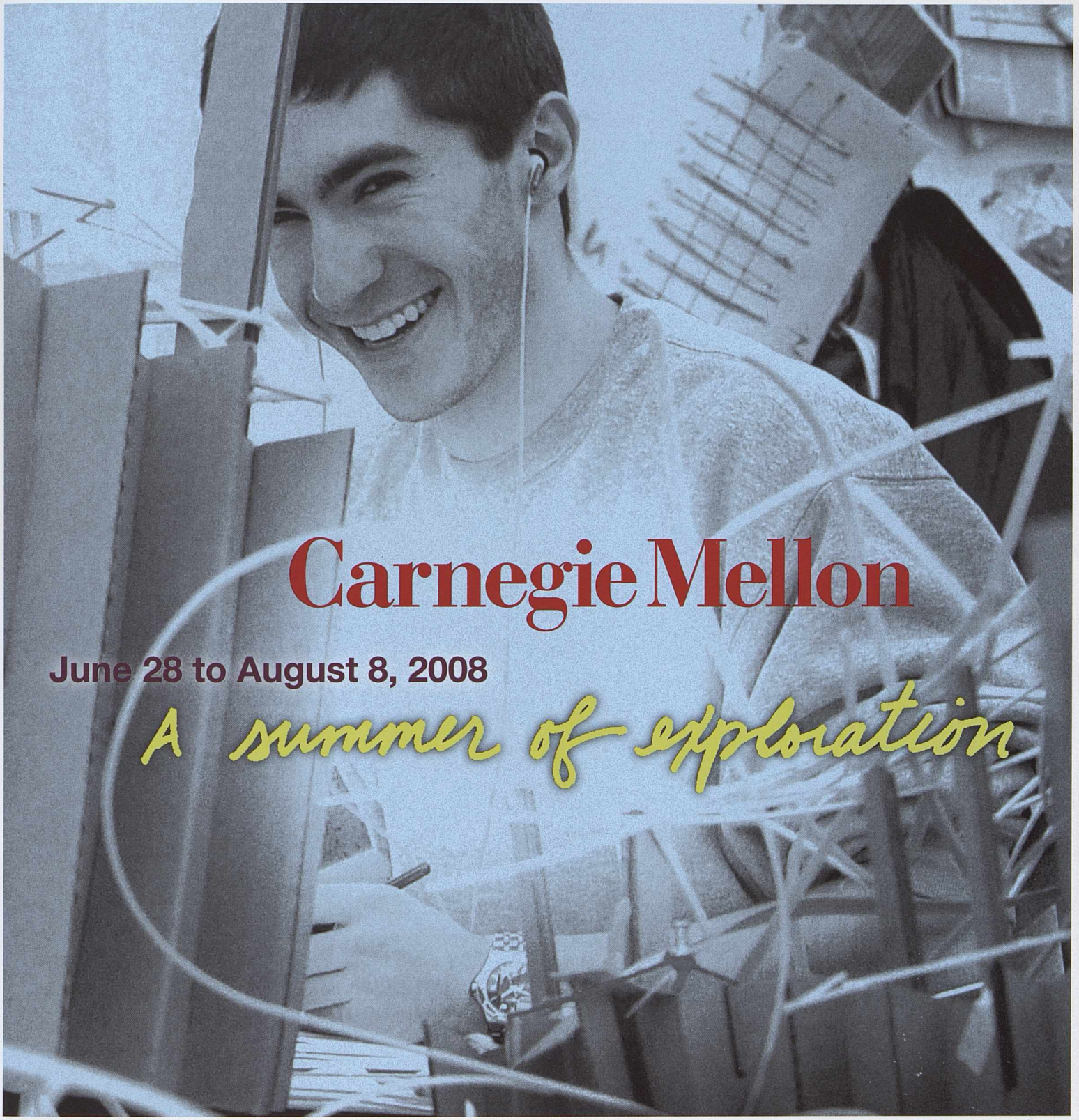
Sometime between the quesadilla and the missed shots, I realized I was wrong. There was much to love about being part of a Carnegie Mellon community 6,930 miles from Pittsburgh. Because the campus is only four years old, the opportunity to be a leader, a friend, a learner, a teacher—a pioneer—is rampant. Just as I was a member of the first women's athletic team, I experienced the thrill of many other firsts. I ate kumquats. I learned about relationships in Islam. I watched a cricket game. I taught local elementary students about business. I sat atop a sand dune.

I rode a camel.

But I achieved something greater than riding a camel. I contributed to and experienced the creation of a legacy. The first environmental initiative. The first full-fledged freshman-through-senior student body. The first direct student exchange between the Pittsburgh and Doha campuses. The value of being the first is undeniable—even in basketball.

The opposing crowd goes wild as my shot bounces out of the basket, but I get my own rebound. Surrounded by defenders, I shoot again. It goes in! My teammates are ecstatic! The game ends seconds later. Seven young women, with disparate capabilities and backgrounds, are a championship team.

—Megan Larcom (TPR'10)



Summer Pre-College Programs

Advanced Placement/Early Action

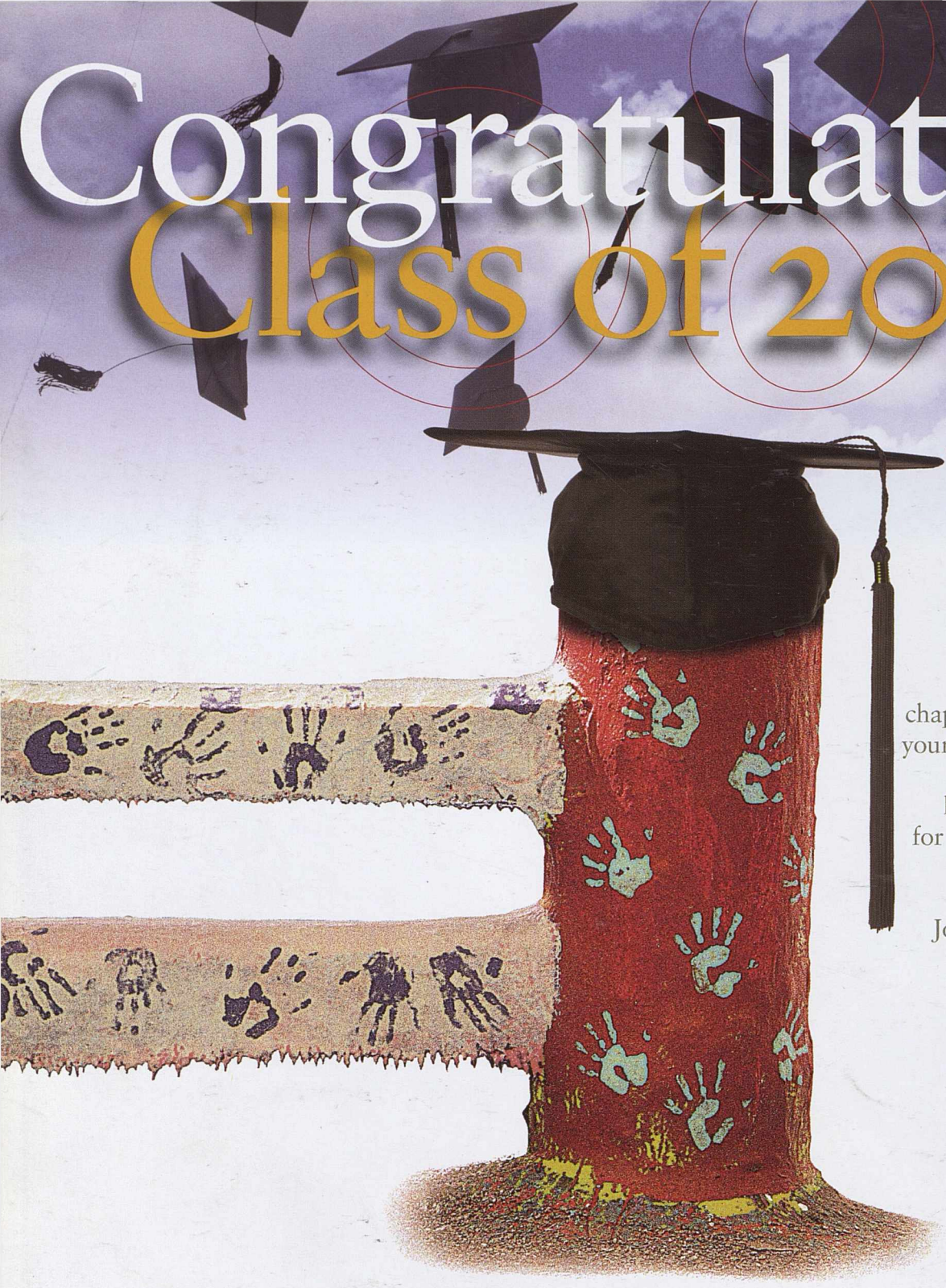
Architecture • Art • Design • Drama • Music

National High School Game Academy

www.cmu.edu/enrollment/pre-college

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Pre-College Programs
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