Gracious Graduate
UH Degree Helped Alumnus Succeed in Career

PC Pioneer
Alumnus Helped to Change the Way the World Computes
Greetings Cougar Nation!

As always, it's a great time to be a Cougar engineer. The University of Houston is on the move and people are taking notice. UH is attracting more world-class researchers, academic leaders and scholars to Houston, research funding is on the rise and enrollment is up—all necessary measures to become a nationally competitive research institution. Alumni participation and giving is another measure for top tier status and you are doing an exceptional job helping us reach this goal!

Over this past year, we’ve had the opportunity to meet many Cougar engineers at college-related events. We’ve learned about your professional achievements and personal endeavors, a few of which have been featured in The Cougar Engineer. Not only are the departments holding more events for alumni, but the Engineering Alumni Association also has many reunions and upcoming events planned, including an E-Week reception in February and the Cullen College of Engineering Alumni Awards Gala in June. The college is also hosting its annual golf tournament in April and the ASME Crawfish Boil is in May. These are just a few opportunities available to you to come out and network with fellow Cougar engineers. I hope to see many of you there!

In this issue of The Cougar Engineer, we feature several alumni who are working on projects and technologies that are absolutely phenomenal. These alumni are trailblazers whose ideas have had tremendous impact on technology development, engineering design and business practice. We are proud of these accomplishments and the overall success of our UH engineering alumni.

Go Coogs!

Joseph W. Tedesco, Ph.D., P.E.
Elizabeth D. Rockwell Endowed Chair and Dean
It’s the way of the comic: bring your home life to the stage.

That’s exactly how Saidas “Sai” Ranade (1982, MSChE, 1985 PhD ChE) does it. Throughout his life, he has accrued more than enough material—drawing from experiences being reared in India, acclimating to a new American culture, the challenges of earning a doctoral degree in engineering and dot-com layoffs.

His take on these experiences tenders chuckles from audiences in comedy clubs everywhere from Massachusetts and Illinois to Texas and California.

“Comedy is about making light of life,” Ranade explains. “Chemical engineering gives me unique experiences that a lot of other people haven’t had. My style is driven by ironies, the twists and turns in my own life.”

He sees his time on stage as a great release, and audiences seem to like him. So much so that in 2000 he won the comedy category of the Internet televised show the “Next Big Star,” hosted by the late Ed McMahon. Not to mention his bits have regular spots on comedy channels on Sirius Satellite Radio among the likes of clips from Bob Hope, Kevin James, George Carlin, Bill Cosby, Ellen DeGeneres and Buddy Hackett. He has also twice been a finalist in Houston’s Funniest Person Competition.

To learn more, visit www.egr.uh.edu/cougarengineer.

—Erin D. McKenzie
Shuttle Discovery carried the father of five Space Station.
centered on replacing an ammonia tank station, Olivas returned Sept. 11 after 13 days in space.
(1993 MSME) made his second trip to space from NASA’s Johnson Space Center to the
Here, Olivas led three spacewalks—mostly
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John “Danny” Olivas
NASA Astronaut
Alumnus Part of Shuttle Discovery Crew
NASA Astronaut John “Danny” Olivas (1993 MSME) made his second trip to space in August on a mission to the International Space Station. Shuttle Discovery carried the father of five from NASA’s Johnson Space Center to the station on its STS-128 mission Aug. 28. Here, Olivas led three spacewalks—mostly centered on replacing an ammonia tank used to move excess heat from inside the space station to radiators outside. The 30th mission dedicated to construction of the station, Olivas returned Sept. 11 after 13 days in space.

Magazine Features Electrical Graduate
Carl Garcia (2005 MIE) was featured in the spring 2009 edition of Alumni Engineer magazine, a publication first printed in 1979 that reaches minority engineers nationwide. Garcia, a project manager at RRI Energy (formerly Reliant Energy) in Houston, was among three people highlighted in an article sharing the success stories of minority electrical engineers.

Governor Appoints Alumnus to Coordinating Board
Durga D. Agrawal (1989 MSIE, 1974 PhD EE) was among three people appointed by Gov. Rick Perry to the Texas Higher Education Coordinating Board. The president and CEO of Houston-based Piping Technology and Products Inc., Agrawal will be tasked with setting policies and coordinating efforts to improve Texas higher education while he holds his seat. His term will expire Aug. 31, 2015.

Alumna Pens Book
Xiuli Wang (2000 PhD ChE) has co-authored the book Advanced Natural Gas Engineering with Michael J. Economides, an adjunct professor in the college’s department of chemical and biomolecular engineering. Published in September, the book addresses the “unique issues and many challenges in the entire food chain of natural gas engineering related to upstream, midstream and downstream,” according to its publisher, Gulf Publishing Company.

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Over the last century, we have witnessed technologies so incredible it’s hard to believe we ever lived without them. The light bulb, the telephone, the Internet—all were life-changing inventions thought up by brilliant minds.

Our own University of Houston Cullen College of Engineering Cougars are among them, responsible for discovering everything from how to network ATM’s and arm gas pumps with a credit card swipe option to the creation of software programs offering hospital staff better access to patient records.

Many more are using their education to create innovative devices. From futuristic contraptions many thought could only be dreamt up by Hollywood for the big screen to the gadgets that make living just plain easier for the rest of us, Cougar engineers are working to give rise to the next amazing thing.

Bill Schneider helped put into orbit two inflatable space habitats with hotel billionaire Robert Bigelow.

Outside his office on the campus of Texas A&M University in College Station, few are aware of the schedule William Schneider (1968 MSME) keeps.

Ruled by far more than the semester’s engineering lectures, Schneider has been rubbing elbows with billionaire and owner of Bigelow Aerospace, Robert Bigelow. For some six years, the two have worked out of Bigelow’s North Las Vegas compound to establish the next big commercial space venture.

Serving as their blueprint—the cancelled TransHab inflatable spacecraft Schneider designed while he was a senior engineer at NASA’s Johnson Space Center. Bigelow bought the rights to the craft in 2002 and, with Schneider’s help, developed and subsequently launched into orbit two inflatable space habitats—Genesis I and Genesis II. Propelled into orbit on Dnepr rockets out of Russia July 12, 2006 and June 28, 2007, both are holding up well circling Earth just above the International Space Station.

Created to be a third of the size of the real thing, the inflatable habitats are testing and validating technologies necessary to successfully carry out plans for a larger, crewed commercial orbital space complex.

"When I got the call shortly after my retirement from NASA that the project was canceled, I thought I’d never see this thing get made," the Louisiana native shared as he sipped coffee in an office where patent plaques and awards compete for wall space with some of the first photographs of his inflatable creation.

"Now, seeing this becoming reality, it is quite gratifying."

Aside from a few minor changes, the Genesis inflatables—measuring roughly 15 feet in length and 8 feet in diameter—are not too far off from what Schneider created for NASA in the late 1990s for use as a module on the space station.

Both are extremely lightweight due to a strategic layering of Kevlar, the material used in bulletproof vests; 3M Nextel, a lightweight ceramic cloth; and open cell foam that is all reinforced by Kevlar straps. This outer layering protects three inner bladders, made of thin plastic material that holds in the module’s air.

Prior to launch, this outside shell collapses down, much like an umbrella, onto a hard structural core made from lightweight aluminum similar to those used for the skin on the fuselage...
and wings of many modern aircrafts. Right now, it is equipped with several test instruments including one that continually monitors radiation levels and internal pressure to be sure the inflatable craft is safe for humans to board.

“The Kevlar straps on the outside of the bladders are the things that take the pressure load,” Schneider explains, noting the layers outside the straps—composed of Nextel and foam layers—are placed in a specific order to break up particles of space debris and micrometeorites that can pack seven times more power than a bullet. It’s the same problem he was called in to perfect on the space shuttle during more than three decades with the government run space agency.

So far, his choice of materials has proven their durability. Not only can the inflatable space habitat handle air pressure four times greater than what’s on Earth and close to three times more than NASA’s space shuttle, it has withstood marble sized aluminum balls being shot against it at speeds of close to 16,000 mph. Even through the rough vibrations of launch, it’s held up flawlessly.

“Once it has gone through all the vibrations, and is in Earth orbit, then we cut it loose and inflate it. The way it is constructed, it has three redundant bladders, much like a football, on the inside that help inflate it and now there it is, ready to go.”

Bigelow Aerospace plans to employ this same technology with its next, much larger craft—Sundancer. It will be the first of the expandable habitats equipped with a life support system that will make it capable of being crewed by humans. A reality as soon as 2011, it will make way for more like it, that the company hopes to attach together using a magnetic docking system Schneider designed.

The connected modules are expected to have several different uses, including everything from space tourism to laboratory areas for pharmaceutical companies to do research in the microgravity environment of space.

Off Highway 303 just outside Dallas, Joe Zinecker (1982 BSEE, 1985 MSEE) is another innovator. He is overseeing a project that may very well change the way the country wages war.

Weighing in at 3.5 tons, it is a prototype of the Transport MULE—one of three types of robotic vehicles Zinecker and his team of more than 130 engineers is creating for the United States Army’s Future Combat Systems Program.

On a recent morning, Zinecker, program director for the Future Combat Systems MULE Program at Lockheed Martin, and a few of his engineers, were using the prototype to show off just what makes the MULE unique.

Approaching the pickup-truck sized prototype at Lockheed Martin’s Robotics Testing Center, Zinecker gestures at its body—constructed of bulletproof material and held up by six airless tires. The tires, he explains, can take a blow from a landmine or bullet and still push on. They are fitted onto wheel hubs that are each powered by an electric motor.

“See how those shoulder joints move?” said Zinecker. “There is a motor in each one of those shoulder joints that allow it to do almost exactly what you would do if you were climbing over an obstacle. It can squat its rear end down and shimmy on its belly over a barrier or put its suspension all the way down on the ground so it can hide in the bush or the grass. It can make it over 1.5 meter gaps or articulate over the jersey barriers found on highways and it can get up high to tiptoe over rocks or stumps.”

The robot’s diesel electric propulsion system, which produces upwards of 50 kilowatts of power, is used to run the shoulder and wheel motors that allow this unique positioning ability. Leftover power is dedicated to operating different mission equipment packages on each of the three versions—the Transport, Countermine and Armed Robotic Vehicle Assault MULEs. This is in addition to powering sophisticated sensors and image-processing systems capable of allowing these robots to see the edges of roads, rivers and other obstacles as they navigate.
"The most important requirement of the MULE is that they must be carried by the CH-47 Chinook helicopter," said Zinecker. "This drives every aspect of the MULE’s design, from the use of special aluminum alloys to the design of lightweight electrical cables."

Together, the three models—capable of controlling themselves autonomously or being controlled by a soldier using a common controller—will ease many jobs that unnecessarily put the lives of American soldiers at risk all while making the Army a lighter, more mobile fighting force.

"The dull, the dirty and the dangerous; that’s what robots can do," Zinecker explains. "We are saving soldiers lives and streamlining operations with these machines."

How? For troops currently stationed in Iraq and Afghanistan, the danger is not always what they can see, but what they cannot. Thousands of landmines scatter the ground, especially between the border of Iraq and Iran. The most recent survey, conducted by the Red Cross in 2001, found mines hidden underground in Iraq resulted in about two dozen injuries per month. Zinecker hopes to change all this with the Countermine MULE. This version is fixed with a forward facing arm that uses ground-penetrating radar to identify, tag and destroy mines. Even the larger more menacing mines, too risky to detonate, can be identified, marked for only U.S. soldiers to see, and programmed into digital maps for future convoys to avoid.

And for the dangers soldiers can see, Zinecker’s team has created the Robotic Armed Vehicle-Assault MULE. This is one of the only robots out there that will be equipped with live ammunition—both a machine gun and Javelin missiles. Though still a relatively uncharted territory for unmanned ground vehicles, Zinecker is confident in their design.

Beyond this model’s ability to fire a weapon, it is designed to assist with reconnaissance, surveillance and target acquisition. This means the vehicle can drive itself to a location and use its sensors to feedback information about the area via streaming video. It even has the ability to notify soldiers if it detects something out of place.

As for the third model, there is little question as to what purpose the Transport MULE serves—it is the workhorse. At Lockheed Martin’s test facility in Grand Prairie, Texas, the prototype of this model is loaded down with rucksacks, boxes and shoulder holsters for Javelin missiles that test its 2,000-pound cargo capacity. Rather than risk the lives of soldiers, it is designed to haul supplies hundreds of miles away, on its own, with the push of a few buttons.

For Zinecker, the versatility of the three models, and their closeness to completion has him excited.

"Can you picture it?" Zinecker, a nearly 25 year veteran of Lockheed Martin, beams. "These big convoys that happen in Iraq and Afghanistan—in the future they will include mostly robots."

Zinecker’s team is scheduled to send their first MULEs to the Army in late 2011. Throughout the course of the next two years, these 20 MULEs—a combination of all three models—will be tested at various military facilities before beginning production in 2013. By 2014, MULEs could be carried by helicopter to combat zones across the world.
For years, these facilities—responsible for housing the computer components that make business in the 21st century easier—have been reaching limits in space, power and cooling. That’s why Wade Vinson (1995 BSME), Michael Hanson (1999 BSEE) and Bruce Mumma (1986 BBA) helped develop Hewlett-Packard Company’s Performance-Optimized Datacenter, also known as the HP POD. It’s a device that not only solves the three problems, it does so portably.

“Customers continue to deploy high density hardware to gain better performance, which pushes data centers to their power and cooling limits, often impacting business growth,” said Vinson. “As customers look to gain a competitive edge by leveraging the latest technologies, they continue to face severe space constraints. The HP POD offers innovative IT infrastructure solutions that can support a broad range of hardware while maximizing physical space and better managing energy consumption.”

Company mergers, acquisitions and significant technology changes leave businesses needing data center refreshments every 10 years, sometimes even less. It’s an expensive solution, requiring the servers in their center go offline as builders work to accommodate the special environmental provisions that can drag out data center builds as long as two years.

The HP POD, however, is self-contained and can be used in the interim while building is going on or it can be fully loaded with racks of computer servers and shipped as a more permanent solution, each within six weeks.

“You get rid of the compromises that are necessary for people and computers to live together,” said Hanson of the device. Not only is the roughly 100,000-pound HP POD weatherproof—allowing the versatility to be placed outside or in a warehouse—it has a unique cooling system that helps make it incredibly powerful despite its compact size.

“When you look at typical data centers, the ability to deliver the power necessary and the cooling to run that kind of power are basically both limited: you are delivering somewhere around 200 watts per square foot,” said Vinson of the HP POD they helped craft to come in 20 or 40 foot lengths. “With the HP POD, our power capacity per rack is 27 kilowatts which translates into about 1,800 watts per square foot.”

This sets it apart from some of the other companies with portable data centers that compete with the HP POD because, even though it is more powerful, its design makes it a more efficient, greener technology.

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“The way we have done the cooling distribution we think we have a solution that is the most power dense out there,” Hanson said of the HP Pod, which was introduced in January 2009. “It helps businesses reduce their cost and expand their capacity all while being energy efficient.”

To see Genesis I and Genesis II orbiting in space, the MULE in action and a multimedia piece on the HP POD, visit The Cougar Engineer online at www.egr.uh.edu/cougarengineer.
Ron Turner (1958 BSPE/BS Math, 1967 MSPE) will be the first to tell you that his education helped him achieve in the petroleum industry. A native Texan, the 73-year-old climbed his way up the ladder of the reservoir consulting and product and services company, Baker Hughes Incorporated, serving as their vice president for 11 years. His work even earned him recognition from Institutional Investor Magazine, which named him the best corporate representative in the oil service industry five consecutive years leading up to his 1993 retirement.

“I could not have done what I did without the education I had at UH,” said Turner, who graduated cum laude. “I thoroughly enjoyed the work that I did, and it was because I was well educated.”

The choice to pursue a petroleum degree and dive into the rich business of crude oil, Turner says, was simple. Not only did he live in Houston, the energy capital of the world, but also he saw how much the industry was changing following the Suez Canal crisis that stopped the import of oil to the United States in the 1960s.

“I wanted to work in the service industry because the U.S. changed after the Suez Canal crisis,” Turner explained. “The oil companies realized they didn’t have any service capacity. They needed new ways of doing things.”

So after graduation Turner signed on with Great Lakes Petroleum Services as a reservoir engineer, where he found more efficient ways of recovering oil. He would stay with the company until they closed down operations five years later before taking his talent to Baker Oil Tools. There, he quickly moved on from design engineer—taking the titles product engineer, chief product engineer and chief engineer before becoming the vice president of research and engineering.

Then a series of articles Turner wrote communicating the complexity of the oil business for the company’s internal magazine would get him noticed. The chairman of Baker’s board of directors as well as the company’s CEO wanted to meet him. It is an appointment that would result in Turner’s transfer to California, and by 1982 earn him the title as vice president of Baker International Corporation. During his tenure, the company would merge with Hughes Tool Company to take on their current name—Baker Hughes Incorporated. Work would call him back to Houston in 1987, five years before retiring from the company at the young age of 57.

“I am certainly not ashamed of how things turned out,” Turner, who now resides in La Quinta, Calif. with wife, Paula, said. “I had some success, made enough money and earned enough honors to be satisfied.”

Since his retirement, Turner has served as a trustee with the R.C. Baker Foundation, an Orange, Calif.-based philanthropy organization started in honor of Reuben C. Baker, a company founder who helped revolutionize cable tool drilling in the early 1900s.
Through exhibits, visitors learn about the engineers who design the equipment pilots have flown across the country and to space. Outside museum walls she shares with communities and schools how these individuals changed the face of the nation.

It is part of why the American Society of Mechanical Engineers (ASME) selected her as their 2009 recipient of the Ralph Coats Roe Medal.

“This is one of the most prestigious awards given out by ASME,” said Barry Hyman, the chairman of ASME’s Committee for the Ralph Coats Roe Medal. “There are few who qualify, but Bonnie more than earned the recognition for being a role model as a NASA astronaut in five shuttle flights, for leading as a senior NASA administrator and for inspiring and educating the public about the nature and history of aerospace technology.”

Since the honor was established in 1972 for Roe, an innovator in the design and construction of highly efficient power plants and advanced desalting processes, it has recognized individuals contributing to a better public understanding and appreciation of engineers’ worth to society.

Given at most one a year, 33, including Dunbar, have received the honor since its inception. They include one other former astronaut, writers, industry professionals and political figures.

“I am honored and humbled,” said Dunbar of the award she accepted at the International Mechanical Engineering Congress in November. "Being a professional engineer who has had the opportunity to work on and to solve problems that are important to our nation has been a fulfilling and rewarding career. I am deeply grateful to the ASME and to the family of Ralph Coats Roe for this recognition."

After earning both her bachelor’s and master’s degrees in ceramic engineering from the University of Washington, Dunbar eventually became a senior research engineer with Rockwell International Space Division. She joined NASA as a flight controller in 1978. Two years later, she earned the title of astronaut where she logged more than 1,208 hours in space on five missions aboard shuttles Atlantis, Challenger, Columbia and Endeavour.

She went on to serve as a senior NASA administrator in 1998. For five years she was actively involved in the agency’s educational and grant programs before serving as associate director of technology integration and risk management prior to retiring from the space agency and accepting her current post in 2005.

Since taking over leadership of the Museum of Flight—one of the largest air and space museums in the world—it has achieved notable success including its designation as an affiliate of the Smithsonian Institution in 2007. The recognition allows the Museum of Flight to access more than 136 million objects housed by the Smithsonian that can be incorporated into its own exhibits.

1960s

Douglas Posey (1969 BSME) is director of apprenticeship programs at Houston Community College.

1970s

Tim Headley (1971 BSEE) has launched a solo practice as a patent, trademark and copyright lawyer.

Ray Ayers (1973 PhD CE) received the Silver Patent Award from the American Society of Mechanical Engineers’ Petroleum Engineering Division. He handles deepwater consulting projects for Stress Engineering Services. Previously, he spent 31 years at Shell Oil Company working with pipeline repair, synthetic fiber mooring systems and seismic noise reduction research programs.

Imran (Ron) Toufeeq (1976 BSME, 1978 MSME) has been promoted to senior vice president of operations, asset management and engineering at Pride International Inc., one of the world’s largest offshore drilling companies.

Bobby Grimes (1979 MSME) received the Exceptional Volunteer Award from the American Society of Mechanical Engineers’ Petroleum Engineering Division. He is the manager of technology services at Hughes Christensen, where he has been employed since 1979. He also serves as vice president of the ASME International Petroleum Technology Institute.

1980s

Reuven Hollo’s (1980 BSCH) company Aries Resources LLC has formed a new venture with Energy Special Situations Funds called Aries Energy LLC. The company was formed for the strategic purpose of acquiring and developing mature oil and gas properties.

Darren Smith (1981 BSEE) is a systems engineer for Entropic Communications in San Diego, Calif.

Kevin Smith (1981 BSEE) is a staff engineer for Siemens in Austin.

1990s

Bill Ramsey (1993 BSCH) has been promoted to global industrial and consumer market manager for the specialty elastomers business at ExxonMobil Chemical.

Mark Janzer (1995 BSECE) and Mehdi Nezami (2004 BSCE) have been responsible for the infrastructure design of several U.S. embassies in Africa, the Middle East, Eastern Europe and the Pacific Basin. They have also been responsible for the infrastructure design of the King Abdullah University of Science and Technology (KAUST) campus. This mega-project was recently awarded an LEED Platinum certification. Janzer is a project manager and Nezami an assistant project manager in the International Division at UAJ Engineering & Surveying Inc. in Houston.

Yasir Kaz (1995 BSCH) is working on his Ph.D. in Islamic Studies at Yale University.

Jim Keck (1995 BSCH) and wife, Amy, welcomed twins, William Thomas and Audrey Catherine, on June 8, 2009.

David Hoffman (1996 BSME) is intellectual property counsel for Schumacher.

Ahmad Shahed (1999 BSME) is a project manager for EPCO Inc. He is managing the engineering, permitting and installation of 43 miles of natural gas pipelines in Fort Worth, Texas and another 17 miles in East Texas.

Jason Wolfe (1999 BSCH) earned a skydiving class-A license from the United States Parachute Association and is working on his private pilot certificate to fly single-engine fixed-wing aircrafts.

2000s


Casey Broxson (2003 BSCE) married Thomas Hensley on Feb. 15, 2009. Casey is an environmental engineer for Quastar Inc.

Morad Kabi (2004 BSCH) is now director of community development as well as the city engineer for the city of Friendswood.

In Memoriam


Of all the impressive technologies that drive our modern world, perhaps the most indispensable is the personal computer. Touching most aspects of everyday life, computers allow businesses to track inventory, control temperature and lighting in offices, offer the ability to communicate through e-mail, even work out complex mathematical problems. But the computer’s ability to so easily serve as an accessory in our home offices, briefcases, libraries and college lecture halls was no small feat.

In the late 1970s, when personal computers were first finding their way into homes, they were nothing more than expensive, oversized typewriters. That was until a company, co-founded by Joseph “Rod” Canion (1966 BSEE, 1968 MSEE), challenged the way things were done.

Canion, Compaq Computer Corporation’s first CEO, pushed the technological envelope during the company’s early years and not only created many of today’s computer industry standards, but also kept companies motivated to continue developing better PCs.

“Back then, the computer industry was headed in the opposite direction of what it is today,” said Canion, reminiscing from his home in Houston’s River Oaks area. “Compaq really deserves credit for turning the industry around by establishing a standard for which all the PCs, except Apple, basically ran the same software.”
Early Beginnings

A love of math and the University of Houston’s close proximity to his parents’ home led Canion to UH. A physics class he enrolled in his freshman year turned him on to engineering, and by 1968 he had graduated magna cum laude with both his bachelor’s and master’s degrees in electrical engineering.

Within weeks he started what would be a 13-year career with Texas Instruments. It is where he would meet Jim Harris and Bill Mutro, the other co-founders of Compaq. After collaborating on several projects, the trio would eventually start talking about starting a business of their own. And in 1981, with IBM’s introduction of personal computers, the budding entrepreneurs saw that with IBM as their sole大型 customer they were not nearly equal customers, so they committed to work reverse engineering IBM’s input/output system (BIOS) code to develop its own BIOS—a necessity for them to maintain the legality of creating a compatible computer.

The next month, in February 1982, the trio convinced Wall Street-analyst-turned-venture-capitalist Benjamin Rosen to help raise the money needed to produce their vision and Compaq was born. They introduced their portable PC that same year, shipping more than 53,000 units and setting a record for a first-year American business by recording revenue of more than $111 million.

“It was like you realized you had something solid again—a portable computer more stylish and rugged than existing units that would not only compete with IBM, it would run all the IBM software. It was a tall order. At the time, computer software was not compatible between companies and IBM had cornered the market on Microsoft. So Canion had some bargaining to do.

“I remember sitting down with Bill Gates in the back room of a party at a conference in San Francisco and showing him the sketch of the portable and telling him how important it was that we had it run their software,” Canion said. “I think they saw that with IBM as their sole large customer they were not nearly as powerful as having a lot more equal customers, so they committed to it.”

Canion then rounded up Intel to ensure Compaq would have the same microprocessors as IBM and got to work reverse engineering IBM’s computer. They needed to work around IBM’s ownership of its basic input/output system (BIOS) code to develop its own BIOS—a necessity for the creation of a compatible computer. Rather than sticking strictly to portable computers, Compaq used their reputation to showcase their first desktop model. The Deskpro line, based on Intel’s 8086 chip, shipped close to 150,000 units by the end of that year and set a revenue record of $329 million.

Two years later, Compaq would move ahead of IBM, beating them to the market with their Deskpro 386. It was the first to use Intel’s 80886 chip and bring the current 16-bit architecture to 32. At four million operations per second and four kilobytes of memory, it gave PCs as much speed as old mainframes and minicomputers.

“That put us on everybody’s radar screen,” he grinned, noting its introduction doubled their sales. “We had challenged IBM and won.”

Compaq continued reaching milestones, becoming the first company to achieve Fortune 500 status five years after it was founded. Company revenues were on the rise, too. They reached $3 billion in 1989 and, other PC makers, challenged IBM’s microchannel hardware design for their PS/2 PCs. It allowed them to avoid paying a fee to IBM for their microchannel technology and helped Compaq to set industry standards.

“All the rest of the industry offered a better product than IBM’s PS/2,” he said. “We had to go up against IBM and organize our competitors to follow this evolution of the existing standard. What we created was a standard that everybody benefited from, especially the consumer. It gave us a faster PC with the ability to perform complex operations such as networking and multitasking.”

Legacy of Entrepreneurship

During his nine years with Compaq, Canion built the company into a personal computer powerhouse. A year after leaving, he would take this business savvy and launch the information technology company, Insorce Technology Group, where he served as chairman until 2006.

“In the late 1990s, I began to become more involved with early stage companies and really realized that I enjoyed using what I had learned at Compaq,” he said. “Now I provide not only money to these companies, but I also offer them my experience and advice with start-up issues.”

Through membership in the GOOSE Society of Texas, a loose knit group of successful entrepreneurs, Canion has invested in a half dozen companies. And with other entrepreneurs, he has provided funding and advice to the winners of the Rice University Business Plan Competition for the last five years.

Currently, Canion serves as chairman of Questia Media Inc., a subscription-based searchable liberal arts web library, and director of the Houston Technology Center, a non-profit that helps technology companies in the Houston area. This is in addition to sitting on the board of directors for ChaCha Search Inc., Invesco Ltd., Physician Capital Group and Auditude—all companies he has personally invested in.

For this man, who changed the way the world computes, mentoring others who aspire to change the way things are done is more than fitting.

“I believe the entrepreneurial spirit and venture capital infrastructure we have in America are very important to our future,” Canion said. “Helping more start-ups succeed is something I can do to help.”
The list above reflects private support made to the UH Cullen College of Engineering during the period of Sept. 1, 2008 through Aug. 31, 2009. The college regrets any errors or omissions and would appreciate notification of corrections. To make a gift to the college, contact Russell Dunlavy at 713-743-4209 or rtdunlavy@uh.edu.
By day, Jim Kaucher (1973 BSME) is the plant manager at Cheniere Energy’s Sabine Pass LNG Terminal in Cameron, La., but catch him at Robertson stadium and he is one of the most devoted Cougar fans you may ever encounter.

Fully adorned in red, Kaucher and his wife, Lynn, are among the first to arrive at the tailgate field and among the last to leave the football stadium. A season ticket holder for more than two decades, Kaucher never misses a home football game, travels to an away game a year and has been known to set up his tailgating tent and other gear in his living room for a televised game.

Step into his Louisiana home overlooking Constance Beach or his second place in Katy, Texas and there are rooms devoted to his alma mater. Each are peppered with signed photos, blankets, shirts and helmets—one even has a handmade UH nightstand. In his driveway he has a red pickup truck and a golf cart emblazoned with UH decals he calls “the Coog.”

Why all this? It is simple says Kaucher, “I am very proud of where I got my degree.”

Right now is a great time to be proud UH alumni! The football team ranked in The Associated Press Poll of the top 25 NCAA Division 1 college football teams for the first time in almost 20 years. Research expenditures are higher than ever and voters in November passed a constitutional amendment to establish a National Research University Fund with the goal of helping turn UH and six other Texas universities into top tier schools.

In recognition of these accomplishments, The Cougar Engineer plans to highlight some of its most dedicated engineering Cougars in upcoming issues. If you know a graduate like Kaucher, send us a note at cougarengineer@egr.uh.edu.
The University of Houston campus is changing. The new meditation pond (above) that sits outside Engineering Building 2 is one of many new additions across campus. Come visit your alma mater and see all the exciting campus beautification and expansion projects underway at UH!