David L. Underwood Memorial Lecture

"Simple Thoughts and Nano Talk"

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2003 recipient, David L. Underwood Memorial Lecture Award

9:30 a.m. Tuesday, August 19, 2003
Terry M. Fischer Theatre
Simple Thoughts and Nano Talks

Thank You Herb and Good Morning and

On Thursday, March 20, at about 1:00 PM, Otis Beard walked up to my office asking me if I would meet with one of his relatives from UM-KC, who was considering relocating to St. Louis and wanted to study engineering at our college. I had just returned back from Santos, Brazil, where we conducted a workshop on engineering technology education in the U.S. at the International Conference on Engineering and Computer Education. He handed me a manila folder that was supposed to include the prospective student’s resume, but only had a stick-on note with a message, which read—“You are the 2003 Underwood Lecture Award recipient.” Up to this time I knew nothing about Underwood Award selection process, nor I had ever imagined anything like this in my future. To say that “I was shocked and in an absolute awe,” would be an understatement. Throughout these four months, everyone wished me well and congratulated me for this recognition, but their sentiments turned immediately to sympathies, since I was now supposed to spend my entire summer writing and preparing for this speech. But, we had a very busy summer. We had a Robotics workshop, and four back-to-back Discover Manufacturing workshops, and in between those
workshops taking care of routine and not so routine work such as
construction of AMC, which left very little time to really get worried or
scared about this speech. What you will hear has probably not been very
well thought out or flushed out, and may be in cases incoherent thoughts and
observations, but [here it is]...*Simple Thoughts and Nano Talk*

However, before I begin, let me thank some of my friends, colleagues,
and bosses who made this possible for me.

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Welcome to the first day of a Brand New academic year. The start of
a new year always reminds me of two very important days in my
professional life. The first one was in August of 1978, which was the start
of my first full academic year at West Virginia Institute of Technology; a
four-year engineering college located in the suburbs or more appropriately a
small coal town outside Charleston, WV called Montgomery. On the first
day, president of Tech, Dr. Leonard Nelson gave his welcome address to the
faculty assembly, as he had done before for some 25 previous years.
Listening to his comments and inspiring words, as a still new faculty
member, I was absolutely convinced that I was working for, or more
importantly associated with a very noble profession, and also connected with
the most important and vibrant institution, not only in the state of West
Virginia, but in the U.S. He minced no words in comparing WV Tech, a
small, a very small, specialized academic institution of engineering with
Rose Hulman, Virginia Tech, and Cal Tech. What he was able to achieve
and communicate in his speech to newcomers like me, was that we are no
less important than any prestigious institutions that are touted in the media.
He said – “Our students are not privileged enough to take advantage of Ivy
League schools, and we are their hope, we are their Harvard and Yale.” The
more years I spend in higher education, the more convinced I get that, we
suffer from a self inflicted inferiority complex. I often hear faculty and staff
here say – oh we are not considered as important as UMSL, but folks at
UMSL feel they are not considered as important as SLU or Wash U. Folks at
Wash U. probably suffer with the same complex when comparing
themselves against Harvard or Yale. Sometimes institutions get so
concerned that they go as far as changing their name to create an identity or
an image for themselves. In the case of Wash U., the concern of identify
crisis was so strong that it is now known as Washington University in St.
Louis. George Washington University in Washington DC, added the word,
“the” to their name to emphasize its identity as “The” George Washington
University. What’s the message in all this – it is very simple - we need to feel good about ourselves, about who we are, and what we can do, regardless of what our competitors or detractors may think. If we are positive about our capabilities, and project a more confident image, our students, their parents, and the community will feel good about this institution, and view us in a positive light. We do not need to apologize because we are a two-year college, or just because we accept anyone and everyone, specifically those students who understand how we can help them better their lives. President Nelson’s message on the first day of the academic year, in 1978 was very simple, yet very powerful. Feel good about yourself, have confidence in your self, “By golly, we can do anything, We are no less important than anyone.”

The second most important professional day in my life, was again the opening day of the school year in August of 1988, eleven years after having first heard President Nelson’s inspiring speech. In order to enter the city of Montgomery and the campus of West Virginia Tech from Route 60, you have to cross Kanawha River. As I was driving my car on the bridge to cross the river that morning, I realized that I was not excited about going to the college on the very first day of the school year. A sinking feeling came
into me. I am 39 years old, tenured Associate Professor, and I questioned and dreaded the thought of driving the same road, and crossing the same river for the next 30 years of my life. On that day, before I reached the campus and my building, I came to a very critical conclusion and made a very important decision, if I am not excited about coming to work on the very first day of school, I need to get out of here, and leave this college for some new energetic and vibrant young man who will be excited about crossing the river for many years to come. My search for a new place began in the late Fall and early Spring semester of 1988 – 89 academic year, and I can tell you today, I am more excited than ever about coming to work every morning to Florissant Valley.

To say that we live in a technological world, or that technology is changing our lives faster than we can handle, would be an understatement. Every time we turn, we run into some new technological advances and challenges, and wonder how we can keep up at this pace forever. Unlike me, many of you were born and brought up in technologically blessed country, the United States of America. So I suspect that the changes of the last ten years are nothing new or surprising for you. You have seen and experienced such changes all your life. I have to be honest with you. Unlike you; I can
recall only two instances, devices, gizmos, and technology that amazed me in the first 25 years of my life in India. The first such device that I was introduced to was the telephone. My dad worked for a British firm involved in the import-export business of non-ferrous scrap from the U.S., Australia, South Africa, Rhodesia, and other developed nations. The day our family acquired the company telephone, this telephone was not only new in our home, but a novelty for the entire neighborhood. Soon the word spread that Agrawal Saheb’s English firm has given him a telephone for his home, he must be a big boss, a very important person, etc. etc. What did this new technology mean for me and my brother and my sister. Soon our telephone became community property, the property of a two-block neighborhood. We were taking messages and fetching folks from all over so that they could speak with their friends and relatives on the other side of the line.

The second technological wonder was a portable radio, in those days, at least in India; it was called a “transistor radio”. In the early 60s my dad’s British bosses, while they were contemplating repatriating back to their mother land, they invited my dad to spend 6 months in their London office, I suspect to learn the business better, and also get to know the principals and colleagues with whom my dad was to associate and communicate, when he
became the manager of their Calcutta office. When he returned back from London, he brought along a classic “Bush transistor radio.” What a beautiful and unique piece of marvelous technological wonder that was. Now we did not have to stay at home on Saturdays and Sundays to listen to Cricket test matches commentary. We could go to the Lake, Victoria Memorial Park, or the Botanical Garden with family members and still not miss the game. Once again, as soon as we took this marvelous device out of our home and to a public place, it too became a public property. We would have fifty, seventy, sometimes as many as hundreds of people surround us, some to actually listen to the score of the on-going Cricket match and some to simply admire this technological marvel.

The introduction of the telephone changed another very important chore of our daily life. Prior to the introduction of telephone in our home, I often had to walk to the nearest main Post Office to deliver and receive telegraph messages for my dad. In those days, telegraph operators used Morse key machines to send and receive messages. Now I could send messages over the telephone. We could call the telephone operator, read the message to her over the phone, give our telegraphic address, and voila; the message was sent. We no longer had to go the Post Office, about 10 mins.
walk to send telegrams. The same was true for receiving messages as well, the telephone operator would call, and read us the message, and the written confirmation came to us by mail over the next three to four days.

Being one of the few fortunate enough to have access to these technological items, we realized and were reminded time and again by our parents of the importance of sharing these things with those in need, and those who could benefit from these items as well. It was drilled in us that we need not be possessive, and we need to learn to share our good fortunes with our less fortunate neighbors and fellow citizens. During my years in higher education, I have often found my colleagues and friends, and sometimes myself as well, reluctant to share things and release possession of our stuff. We hear the words, it is my lab, my classroom, my lab equipment, and frequently lose sight of the advantages to sharing our assets.

As I said earlier, my plan to change job began in early 1988. Having been involved with a four-year college; of course, my first inclination was to seek employment at another baccalaureate degree granting institution. However, I always believed that four-year colleges were not in tune with and/or connected with the community they served. Such was the case at
West Virginia Tech. The two exceptions were our Mining Department and
the Department of Industrial Relations and Human Resources. Both
departments had strong and vibrant relationships with our constituencies.
Interestingly it so happened that my department served the mining industry
and mostly the company management on engineering and technology related
education, training, and research; where as, the Department of Industrial
Relations and Human Resources was very busy in supporting and organizing
activities for the United Mine Workers Association, whether it meant
organizing a strike, or acting as negotiators for the union cause in labor
management disputes. Dr. Nelson used to get heartburns every time he heard
names of John David and Linda Ewen mentioned by coal companies,
companies who also used to be major financial supporters of our college and
mining and engineering programs. However, both of our departments saw
our roles as serving our constituencies, and we respected and valued each
other’s contribution to the community. And although very quietly, Dr.
Nelson, appreciated the efforts of John David and Linda Ewen because they
served their constituencies, and kept Tech’s name in the news as an
institution whose faculty members were involved.
As I was searching for a new college, I came across, a report titled “Building Communities – A Vision for a New Century” - A Report of the Commission on the Future of Community Colleges. That report really got me hooked to the values of community colleges, and upon further investigation it became apparent that a community college is the type of vibrant and responsive institution where I needed to spend most of my educational and professional career. Now having been at a community college for the last fourteen years, it appears to me that although we do a great job of educating and training the students who enroll in our courses and the college, we could do a better job of raising their awareness on critical issues that impact our communities, our society, and our quality of life.

In the last ten years or so there has been a proliferation of personalized license plates, we all want to make a statement, sometimes these are inspirational, sometimes funny, and unfortunately some times these are nasty and mean. These license plates remind me of my dad’s telegraphic address. As I said before, we used to send messages over the telephone, at that time you also had to state your telegraphic address, which in our case was 9 characters long - Ladder, India, Victory, Ladder, Eagle, Tommy,
Ladder, India, Victory “LIVLETLIV”. Of course you also had to include the city name, which was Charlie, Apple, Ladder, Charlie, Uncle, Tommy, Tommy, Apple. By these two words, anyone could send us a telegram from any place in the world. For all these years I never paid much attention to what it communicated. As I got older and saw the real world first hand, then it struck me what my dad’s telegraphic address really meant, think about it – LIVLETLIV – “Live and Let Others Live”. Just imagine if at higher education institutions, in neighborhoods, in communities, and the world, if everyone followed this simple principle of minding their own business, enjoying life, doing the best they can for themselves and let others do the same, the world would be a much different place, and a much more friendly place.

I suppose my involvement in engineering, and more specifically manufacturing and the Advanced Manufacturing Center had a lot to do with my selection as this year’s Underwood Lecture Award recipient. So let me touch on some of the issues in manufacturing as I see it.

First of all let me thank Florissant Valley faculty and staff and St. Louis Community College leadership for their foresight, wisdom in moving
ahead with the expansion of a building for manufacturing, right when all news in the mass media about manufacturing was turning negative.

It is my view, and it is supported by data, that in spite of the regular ups and downs of the economy and the manufacturing industry, manufacturing is here to stay; and for the good of our country, society, and quality of life, we should all hope it stays alive and vibrant. If you come across individuals who would like to convince you that “manufacturing is dead”, and that colleges like ours should not spend precious dollars in such facilities, or if you come in contact with parents or students and they don’t see any wisdom in pursuing manufacturing education and training, my message to them, and I hope your message to them as well, will be – no, manufacturing is not dead. Ask them, what manufactured or engineered products are they willing to do without? Would they do without simple things of daily of life such as the toothbrush and tooth paste. Would they want to go back to using sticks of a Neem tree to clean their teeth, as I have used on occasions in India. Would they miss the pleasure of hot or cold or luke warm shower in the morning, or would they miss the ability to get their choice of crushed or cube ice from the ice maker, which knows just when to stop making more ice. If they are not convinced up to this time, ask them are
they willing to stop buying ever so powerful computers, network cards, switches, routers fiber optics cables for offices, or fancy desks and chairs for students and staff. Are they willing to go to hospitals that do not have the latest instruments and devices to take care of them? Manufacturing and manufactured products are like air, water, and electricity. We all take it for granted. All the manufactured products we use or need, have been with us, and will be with us, why worry about it. Of course, until something like what happened on the eastern sea-board of the U.S. last week, or if like OPEC, countries in Southeast Asia should form a cartel and decide not to ship any manufactured products to us for a few months, or for a few weeks, or even for a few days. CEO’s of Wal-Mart, K-Mart, and Home Depot, and the malls of America will have very little to sell, and you can imagine the impact and implications of that on our society, our quality of life, and the country’s economy.

What is most interesting about manufacturing is that almost everyone loves and likes what manufacturing has to offer. If you like the convenience of a hot coffee poured out of an $8 coffee pot in your kitchen, or from a $1,000 Latte and Espresso machine at your local Starbucks, whether you travel on a human pulled two wheeler Rickshaw or commute on a state of
the art marvel Segway or Ginger, whether you buy and use $4 toilet paper holder or utilize a fancy paper dispensing system on a high-tech printer or copying machine, whether you buy your clothes at your local Wal-Mart or at an upscale store in Plaza Fronetenac, you are in some way or the other supporting and relying on manufacturing. That is, unless you wear hand spun cotton from a spinning wheel, like my dad, a staunch follower of Mahatma Gandhi, used to wear in his youth days to support India’s freedom fight against the British Raj (British Rule). (((On a side note, everyone in the audience is well familiar with the U.S. Civil War of the 1860’s when some times brathers fought on opposite sides. What you may not know, to an extent such was the case in the fight for India’s freedom. My dad and three of his brathers were strong supporters and followers of Gandhi’s mode of non-violence method to achieve India’s freedom; however, two of his brothers were strong supporters, followers, and members of a Hindu radical organization RSS. This organization believed a different approach for achieving freedom. After independence when Godse, a follower of the RSS organization, killed Mahatma Gandhi, while my dad and rest of our family was morning, two of my uncles were celebrating, and were arrested by the local police for their open celebration at the time of the national tragedy. In order to keep one of my uncle from the grips of RSS, my grandparents had
to send him to Calcutta, to live with my dad, and grow up. Which he did, and eventually became a very successful businessman.)))

Coming back to manufacturing - The good news is that, as a whole the reality of manufacturing, and more specifically modern manufacturing, is far different, far more complex and much more attractive than the negative stereotypes reported in various studies and the mass media. Manufacturing is the productivity core of the American economy, driving technological advance and providing enormously varied, exciting and well-compensated careers. Employing professional and skilled workers in nearly every imaginable specialty – from graphic designers, accountants, sales executives and physicians to scientists and lawyers and marketing managers – manufacturing companies offer one of the broadest ranges of possible career paths. On an average, employees in the manufacturing industry earn about 20 percent higher wages than comparative averages for all U.S. workers.

I will not bore you with all the critical and positive statistics on the importance of manufacturing, if you would like, I can guide you to various studies and reports on this topic.
Manufacturing and jobs in the manufacturing industry, however, are undergoing a period of profound transition. By 2005, manufacturing industry will be hit by the retirement of a major portion of the current working population. A 2001 survey of the manufacturing sector found that more than 80 percent of manufacturers reported a “moderate to serious” shortage of qualified job applicants. The study notes that “what manufacturing is facing is not a lack of employees, but a shortfall of highly qualified employees with specific educational backgrounds and skills. A January 2002 survey of over 1500 employers, confirmed similar results, 73 percent experienced very or somewhat sever conditions when trying to hire qualified workers. The improvements of the skills and knowledge are among the most critical factors in achieving future gains in manufacturing productivity.

The configuration of manufacturing careers is projected to shift towards higher skills professions, management, marketing, sales, and services, and maintenance operation, with higher technology becoming even more pervasive. Thus, careers in the manufacturing sector will become even more attractive and desirable.
Whenever one considers and speaks of the future of manufacturing in the U.S., the role and impact of manufacturing in the foreign countries has to be considered. However, the challenge for us is not the low-cost goods from low-wage producers in developing countries, but rather it concerns high-quality goods made by high-skilled workers in advanced and emerging economies. In order for manufacturing to continue to provide a wide range of well-paid jobs and careers to Americans, employees must bring significant knowledge and skill to their careers. This constitutes a profound challenge that must be addressed by both American manufacturers and by the colleges like Florissant Valley and St. Louis Community College.

So where is manufacturing going - Before we talk about the future of manufacturing technology, let's look at the short history of the past fifty years. Engineers and scientists lead the wartime technologies such as atomic energy, air transportation, agriculture, jet and rocket propulsion, and early space travel, into advancements in entertainment, communications, especially television, as well as early electronics, computers, semiconductors, the microchip, and eventually, laser optics, fiber optics, and holograms — developments that have revolutionized daily life today.
Now what about the future, where will the ingenuity of American scientists and engineers take us over the next 20 years.

In November 1989, two IBM scientists purposely manipulated individual atoms of Xenon to build a structure, a simple IBM logo. That simple experiment started a new technological era, the age of Nanotechnology. What was most amazing about this simple accomplishment is that the logo was so small that it could fit 350 million times in an area size of the period at the end of a sentence.

Like the previous age before it, the Nanotechnology Age began quietly. And just like Stone, Iron, and Silicon Ages, this new age will forever revolutionize the world. What will set the Nanotechnology Age apart will be the rate of change and the speed with which it will impact the world. Nanotechnology will impact almost every segment of society, and, it will arrive – and is arriving – much more rapidly and expanding exponentially than previous advances. Separate and unrelated areas of science are now beginning to merge. Consider the following – Material scientists are now developing new materials with enhanced electronic properties. These new materials will allow for the creation of faster computers. These faster
computers will be used to generate more sophisticated computer simulation software, which in turn will be used to design even better materials. These new materials will then be turned around and used to build the next generation of even-faster computers.

In the coming decade, academic disciplines of chemistry, physics, material sciences, biology, some fields of engineering, and computational science will converge to create a new knowledge and academic discipline called nanotechnology and this knowledge will impact almost every industry, including computers, semiconductors, pharmaceuticals, defense, health care, communications, transportation, chemicals, and manufacturing.

So what is Nanotechnology – broadly speaking, it is the art and science of manipulating and rearranging individual atoms and molecules to create materials, devices, and systems.

So why is Nanotechnology important – If we can manipulate individual atoms and molecules we can modify and control every physical property of a matter, everything from strength and electrical conductivity to optical, magnetic, and thermal properties. Therefore, by selectively
arranging the material’s atoms, everything from metals, ceramics, polymers, and semiconductors to glass and composites can be constructed for unique and novel performance.

We can make metals stronger and lighter, ceramics more flexible. We can even change its special characteristics such as color and fluorescence. Nanotechnology and nanoparticles will dramatically change some of the simple things in life. This technology will lead to longer lasting lipsticks and mascaras with never before seen colors. The transparency of nanoparticles can also be modified as well, imagine sunscreens manufactured from super transparent nanoparticles. Guess what is meant by the factor 8 or factor 20 in the sunscreen you use – it is the amount of nano-particles that are inside to absorb the ultra-violet radiation that can burn your skin.

In the future, possible applications of Nanotechnology and nano particles will include –

Sensors to detect dangerous substances

Materials that change properties as we need them
Nano-machines

Nano-robots that will enter our body to clean or fix it

Textile that will change properties as a function of needs, such as keeping cool in summer and warm in winter

Forks, spoons, dishes, pots, clothes - that do not get dirty or wet

Materials that can fix your bones and teeth so that you cannot tell the difference

Materials that are very resistant and very light to make cars, aircraft; and space vehicles able to go on longer journey with much less energy consumption

Etc. etc. etc.
The small size of nanoparticles makes them important for the pharmaceutical industry. Unlike their many micro-sized particles, many nanoparticles are undetectable by the body’s antibody system, meaning that the body does not reject the nano-sized drug as often.

Imagine the reality -

Nanotechnology will help in automated diagnosis. This in turn would mean fewer patients (physical evaluation, less time needed to make a diagnosis, less human error and wider access to health care facilities.

Nanotechnology will be able to repair or reproduce tissue, diagnose disease such as cancer, at a very early stage, dispense drugs at the cellular level, and even reverse disease.

Automotive body parts made out of nanocomposites are not likely to dent or break...
If these realities come true, imagine the jobs and career implications nanotechnology will have on the present day careers in health and automotive industry......

Before 2010, the market for nanotechnology products and services is expected to reach $1 trillion in the U.S. economy and will require anywhere from 80,000 to two million jobs.

This is why every major government in the world is now investing in nanotechnology and why the U.S. government alone has increased funding from $422 million in 2000 to a projected $710 million in 2003. Venture capitalists are expected to increase their funding in nanotechnology fivefold by 2004. It is why a dozen universities have established multimillion-dollar nanotechnology centers since 2001 and why dozens more are expected to do the same in the years ahead.

Nanotechnology is going to be big. In fact, although it deals with the very small – a nanometer is 1/80000th the diameter of a human hair – it is going to be bigger than big. According to a senior advisor at the National
Science Foundation, "Because of nanotechnology, we will see more change in our civilization in the next thirty years than we did during all of the twentieth century.

According to a study, the term "nanotechnology" was mentioned in professional articles and journals 1,800 times in 2000. This figure is comparable to the number of times "Internet" was cited in the early 1990s, before the Internet exploded and changed the face of how business operates. In the year 2001, US Patent Offices granted some 2000 patents under the category of nanotechnology.

Impact of this technology on the job market and traditional careers will be enormous. Imagine the number of individuals and occupations that currently rely on your car bumper being damaged in a car wreck. Imagine the number of health care professionals that come to your rescue if we suffer with a heart disease, now imagine if due to nanotechnology advances we could locate and destroy cholesterol molecules that cause heart problems. I will leave the future impact of Nanotechnology on the present day jobs and careers for your imagination and future discussion.
A recent report by National Science Foundation concludes that nanotechnology must be explained in ways that are understandable for K-12 students and the public. Nanotechnology career pathways should be created and promoted from high school and through associate and baccalaureate degrees and beyond. In addition, the reports states that “Associate degree education presents significant opportunities for regional economic development through new growth of newer technology-oriented industries that use nanotechnology, and revitalization of traditional industries that can benefit from nanotechnology.

The House of Representatives on May 7 passed HR 766, The Nanotechnology Act of 2002, authorizing $2.36 billion over three years for nanotech R & D programs at the National Science Foundation, the Department of Energy, the Department of Commerce, NASA, and the Environmental Protection Agency. The bill provides a formal structure for coordination of research across the agencies, emphasizing interdisciplinary research and addressing societal concerns raised by nanotechnology. The legislation will promote efforts to commercialize nanotechnology applications, and provides incentives for U.S. citizens and legal residents to pursue degrees in engineering and science. Technical and commercial activities will focus on issues such as self-replicating nanotechnology, and
the use of nanotechnology for defense technologies, molecular manufacturing, human brain extending, and artificial intelligence. Realizing the need for interdisciplinary research and education in this field, National Science Foundation has charged its Directorates of Engineering, Biology, Chemistry, Physics, and Education and Human Resources to support and manage research and curriculum related projects collaboratively.

Senator Ron Wyden (D-OR), who introduced Senate bill (S-189) dealing with Nanotechnology, said, "far from the stuff of science fiction, nanotechnology has become a reality in the lives of many Americans. There is no question that this field will dramatically change the way Americans live."

So I suppose we can all look forward to this upcoming revolution, the question for us faculty, staff, and administration of Florissant Valley and more broadly for the District is – “will we be ready to adopt, adapt, and shape this change? Will we be players in this change?” “Will our students and our graduates be able to participate in this adventure and benefit from this enterprise?” I suppose the answers for these questions lies with all of us, it will depend on how we either respond, or fail to respond. It may be a future Underwood Lecture Award recipient who will be the one that puts
Florissant Valley on the fore front of nanotechnology education and training, and the St. Louis area a leader in nanotechnology industry and businesses.

We all know that faculty and administration of this campus and the Underwood family established the Underwood Lecture Award to recognize Dean David Underwood. For those of us who did not have the good fortune of getting to know him first hand, we have often heard his colleagues speaking of him with love and admiration. According to old timers he was a gentle man, a true educator, a true dean of faculty, and most importantly an honest champion of students and student learning. As has been done in the past by earlier recipients of this great honor, I too want to extend my most sincere thanks to Mrs. Underwood and the Underwood family for their on-going support and commitment to this award. Although it appears that through this annual award the campus recognizes individuals, it is my view that through this award the campus not only recognizes individuals, but also rededicates itself to the values espoused by Dean Underwood. This is the time when as a campus we come together and say that academic excellence is important. We recognize and stand in support of faculty members who strive to improve their teaching, create new programs, and improve the college facility and quality of learning. However, the environment for quality learning happens only when faculty, staff, and administrators of a
college work together for the common goal of providing support and service to its students. In case of Florissant Valley this happens every year, every month, every week, and every day of the year. Our students may not realize this, but they are fortunate to have dedicated staff and administrators who collectively work hard and to the best of their abilities to make Florissant Valley a very exciting and inviting place. Our office and professional staff members, our physical facilities staff and our administrators strive consistently and continuously so that we the faculty have the most attractive and appropriate facilities and resources to conduct the instructional activities and so that our students have the opportunities for the best education possible in the St. Louis area.

Let it be known to everyone in the community that St. Louis Community College is the place where students and community residents come to better their lives. St. Louis Community College is an organization whose faculty and staff are vibrant and involved members of the community. Florissant Valley is a place that not only provides quality education, work force related training, and programs for self-improvement, but it also is the institution that is engaged in the community, and is always striving to make the St. Louis area a better place to live, work, and play. On this first day of
the school year, it is my pledge to you and challenge to all of us, old and new, young and gray haired, faculty, staff, and administrators, let's return back to our offices and classrooms for another year, and many more years to come, to help our students and our community become better than it is today.

Thank you, and have a great year.