Good afternoon! It is an honor to be here today with fellow alumni of Texas State University, its science and engineering faculty and, most importantly, students from the College of Science. You know we share the experience of being students at this university with some pretty renowned people, perhaps the most famous of them being President Lyndon B Johnson and Country Music Star George Strait. But our university has also graduated a number of women who have made a difference in science and engineering. Two of them are with us today. Beverly Curtice received her Master’s Degree in Chemistry from SWTSU in 1970 and currently works for INEOS NOVA Chemicals as a Quality Specialist and Chemist. She is very active in her industry, is a Fellow with the American Society for Testing and Materials (ASTM), an international standards organization, and serves as the chairperson of their Committee on Aromatic Hydrocarbons and Related Chemicals. She also gives back to the university by serving on the Texas State College of Science Advisory Board. Also with us today is Susie Patenaude, who received her Bachelor’s degree in Education with concentrations in Mathematics and Business from SWTSU in 1977. Upon graduation, Susie taught high school math and now, together with her husband, owns her own business, Rothe Development, a government service contractor specializing in running IT and Communications centers for NASA and the Department of Defense. Both of these women are members of the Women’s Giving Circle, which supports the Women in Science Initiative within the College of Science and sponsored scholarships to be awarded later today, making it possible for more women to pursue higher education and careers in science and engineering. You have already decided to pursue a career in science or engineering, a decision that I certainly believe is a WISE one! However across the globe, women are still significantly under-represented in the fields of mathematics, science, technology, and engineering. Quoting some statistics from the Women’s Giving Circle webpage, in the US, women make up half of the
workforce, yet comprise less than 30% of all scientists in America and less than 12% of engineers. I work at a firm with a total staff of over 3000, 1100 of which are degreed scientists and engineers, yet we struggle to keep up with the national average percentage of women scientists and engineers. But, there is good news here at Texas State. Among our distinguished alumni are Dr. Marsha Will-Karp, who received her bachelors and masters of science degrees in Biology from SWT in the 1980s. She was been named to the top 1,000 scientists in the world and is considered one of the world’s leading scientists in asthma research. Then there is Karen Thompson, a 1985 graduate from SWT with a degree in Chemistry. She served as the Technology and Science Manager for the Exploration Office at NASA’s Kennedy Space Center and is currently the Chief Technologist in their Engineering Directorate. She has been honored with the NASA Exceptional Service Medal, the Kennedy Space Center Invention of the Year award, and received the Patent of the Year award from the Department of Energy’s Los Alamos National Laboratory. Recognizing these past SWT distinguished women graduates in science and engineering opens your eyes to the possibilities; however, that is just the beginning. This semester, there are 3442 students enrolled in the College of Science, 38% of which are women, significantly better than the national average.

Let me tell you a little about my story – Just like the other women that I have mentioned, I graduated from what was then known as Southwest Texas State University. I received a Bachelor’s Degree in Computer Science in May of 1977.

In preparation for this talk today, I reflected back to 1977 and discovered, to my surprise, that my graduation wasn’t the only notable event that year!

- The 39th President of the United States, Jimmy Carter, was sworn into office
- Gasoline sold for 70 cents/gallon
- We lost 2 superstar entertainers - Bing Crosby and Elvis Presley
- Jimmy Buffet recorded Margaritaville
- In sports, Seattle Slew won the Triple Crown and, for us SPURS fans, Manu Ginobili was born
- There were also many notable “firsts in technology” that year –
  - The first telephone communications system using fiber optics was installed
  - The Commodore computer, the Tandy TRS-80 and the Apple II were released, changing our lives forever with personal computing
  - The Atari 2600 game system was introduced
  - ORACLE and Microsoft were founded
  - The First MRI scanner was tested, and
  - The first networked ATM machines were introduced
I was just 17 when I came to San Marcos. I lived on campus my first 2 years, first in Falls Hall and then in Sterry Hall. While living at Falls, I met someone who became one of my best life-long friends, Donna, who lived just a couple of doors down from me in the dorm. Recently we reminisced about our years at Southwest Texas.

Dorm life left us both with many lasting memories. Donna recalled walking around the hallway in Falls Hall on the day she moved in, looking at the signs on each door with the names of students living in the room. Well, my maiden name was Bischoffberger and in those days, the computer systems at SWT had only one field for your name, and they used a “last name, first name” convention. And by the way the field was only 20 characters wide, so I was BISCHOFFBERGER, SUSA on all of the university records. Donna confessed, after all these years, that when she saw that name on my door, she imagined this East German Discus thrower named Susa. I then remembered going to each of my classes on the first day, and the professor taking roll, always pausing before calling out SUSA BISCHOFFBERGER.

We also recalled the community bathrooms (and how we hated them), cafeteria food (which I later learned was actually better than having to cook and clean up after meals), panty raids and the occasional stalkers. Although you couldn’t have convinced me at the time, looking back on it, I am pretty sure that dorm life was one of the best parts of college.

In the mid to late 1970s, there weren’t a lot of places to eat in and around the university. I didn’t have a car my freshman year, so I was dependent on walking or friends who did have a car. Donna had a car, but she was from Stockdale, a small town just east of San Antonio. Stockdale had (and still has) only one blinking traffic light; so Donna’s driving experience was limited at best. It was actually quite frightening to ride with her because she was totally unfamiliar with one way streets, which were in abundance in San Marcos, and we often found ourselves going in the wrong direction. As a result we usually opted for places within walking distance to campus. That meant Jack-in-the-Box or Gils. I still have fond memories of the Mansky Rolls at Gils and I am not sure how we would have survived without Jack-in-the-Box since it was the only restaurant in San Marcos that was open after midnight in the 70s.

Probably my fondest (non-academic) memory of my times at SWT was being entertained by George Strait and the Ace in the Hole Band. During my entire time in San Marcos, they played at the local honky tonks. I remember going to Skate Skeller (a skating rink by day and dance hall at night) and the Prairie Rose, a small bar and dance hall on the IH35 access road (last time I looked, I think it was a used car dealership) and paying anywhere from 50 cents to $2 cover charge to listen to George and his band. I even remember one January weekend, going out to the Hays County Civic Center where they played after a small rodeo. It was very cold that night and the only ones there were the band, our group of 4,
and one other table of people. George came over to our table, sat down with us and visited with us for a while during one of their breaks. Oh, if I only knew then, what I know now!! To this date, my husband still won’t buy a ticket to see George in concert. He says that he’ll never pay the going rate for tickets after seeing him play so many times for $2 a person!

I do have SOME memories of the “EDUCATION” I received at SWT as well! Out of all the classes I took, I would have to rank canoeing at the top of the list. What could be better than HAVING to go to the river? Most of the other people there were skipping class, yet I had class AT the RIVER. I have a lot of memories of that class! I remember having to tread water for what seemed like a lifetime with my jeans and tennis shoes on just to qualify for the class. I never knew that wet shoes could feel so heavy. I also remember having to "swamp" the canoe, then having to work to dump the water out, which usually resulted in me and my partner being dumped out.

Let’s not forget that I was a Computer Science major. The CS program was relatively new. If I remember correctly the first students with actual CS majors graduated at the end of my first year. Maybe because the program was in its infancy, it was a very exciting time. I remember participating in 2 student organizations in the CS department, Epsilon Delta Pi, the Computer Science Honor Society and the Computer Science Association or CSA as it was known. Epsilon Delta Pi looked good on your resume, but the CSA was fun! Once a semester, CSA had a weekend party for current and former members at University Camp in Wimberly. I remember Wilbon Davis and Dr. Grady Early, both of whom were faculty sponsors of the CSA. Wilbon hired me as a Lab Assistant in the Student Computer Lab and as a Student Programmer to assist him on research projects. Dr. Early, who I understand retired about 10 years ago, after teaching at Texas State for almost 30 years, was always somewhat eccentric. I recently read that in keeping with that tradition, he will be returning to the university, but this time not as an instructor, but as a teaching instrument, as he has made arrangements to donate his body to the Texas State Forensic Anthropology Center.

Although, I don’t remember many specifics about my classes, I do remember feeling very satisfied with the CS education that I received at SWT. Our classes were small and the faculty took a personal interest in each and every one of us. Once I came to work at Southwest Research Institute that satisfaction was confirmed. At the Institute, I work with graduates from the nation’s top-ranked universities and I have never felt limited by my education. On the contrary, I have always felt prepared for the challenges presented to me. That preparation came in part by my upbringing, but I also owe much of it to my time at SWT. I not only learned academics, but I also learned much about life, and those experiences provided a solid foundation upon which I have built a successful career at Southwest Research Institute.
I started at the Institute as a Research Analyst and was the first Computer Scientist hired into a technical division at the Institute. In those days, the majority of the Institute’s engineering was done in hardware; software was still considered a very new field. As a matter of fact, it took my boss 2 months after I interviewed to convince his boss that hiring a Computer Scientist was a smart thing to do! I am sure that some days, they still wonder about that!! As a Research Analyst, I applied my programming skills to projects such as the development of a custom point of sale terminal system for Church’s Fried Chicken and a blood pressure monitoring device for a Japanese medical instrumentation firm. After five years, I was promoted to Senior Research Analyst, during which time I served as the software lead on a project developing an electrical test system for General Motors. That project was very software intensive, and provided an opportunity for us to significantly grow our CS staff. As a result, in 1986 I became a manager of a newly formed Software Engineering Section. Our section performed very interesting and diverse projects, including developing new concepts and software for the Mission Control Center at NASA JSC, designing new architectures for manufacturing automation systems and designing and developing modeling and simulation software for Department of Defense intelligence agencies. As our project successes continued, we continued to grow, and opportunities for my career growth continued to present themselves. Through the years, our section became a department, and in 2008, I was offered the opportunity to serve the Institute as Vice President of the Automation and Data Systems Division. Our division performs very interesting and challenging, state-of-the-art research and development projects for both industrial and governmental clients in areas including biomedical engineering, robotics, manufacturing automation, intelligent transportation systems, autonomous vehicles, medical information systems, cyber security and the new energy smart grid.

And, by the way, in case you are wondering, my friend Donna has done alright for herself as well! Donna received a Bachelor of Science degree in Education with a major in Biology and a minor in Chemistry from SWTSU in 1978 and she has taught high school science ever since. She was named a finalist for the 2009 Excellence in Education Lifetime Achievement Award for secondary teachers in Texas and named the 2009 winner of the Jane Johnson Wilson award for outstanding teachers in Texas.

But Donna and I graduated in the 70s – how are things different today? Certainly, the economy has impacted the job market. Hiring has been down in recent years, but it is picking up again. According to articles published recently by the US News and World Report, the Wall Street Journal and a list published by the US Department of Labor, the best career opportunities for the next several years are in health care and computing. This is great for science and engineering as those are the primary disciplines which prepare us for these career fields. From an employer’s perspective, I would suggest that you prepare yourself for a longer job search and greater competition. Be humble, but not reserved. Understand that you are just beginning your career and that the days of entitlement and high
profile starting positions with large signing bonuses are a thing of the past. Do what you can to make yourself stand out among the competition. Keep your grades up. GPA is often used as a criteria for selecting applicants to interview and when all else is equal, the interviewed applicant with the higher GPA may get the offer. Be involved in campus activities and leadership roles. Internships, whether paid or unpaid, demonstrate initiative, a desire for challenge and experience working for others. Write an effective resume and cover letter. The resume should be a page or two in length and the cover letter should give the reader a reason to read the resume. It should be concise, considerate of the HR person's time and to the point about how you qualify for a position with their company. At the interview, speak with confidence, not arrogance. Typically, when we interview new graduates at our company, the focus is on interpersonal and communication skills since academic knowledge and ability to learn can normally be discerned from the student's academic record. Express interest in that specific company and how your academic success is transferable to their workplace (this requires that you do your homework) and communicate to the employer what kind of worker you would be.

In closing, since I have shared a little with you about myself, I'd like to take a minute to reflect upon how my career has paralleled that of our University. Both rose from somewhat humble, unpretentious beginnings, but never for a moment did those unassuming beginnings limit our potential. Our University was established in 1899. Since that time, it has changed names five times as it has evolved from a teachers' college to a major university. In the years that I attended, it was known as Southwest Texas State University, but since then has grown into Texas State University. Texas State University now has approximately 1300 faculty and 30,800 students, not the small town university it was when I started here in 1974! It now offers over 100 bachelors, nearly 90 masters and 9 doctoral degree programs. Some things haven’t changed though. The University is still the center of life in San Marcos. Old Main still serves as a geographic landmark, overlooking the campus. The San Marcos River and Sewell Park still provide a unique charm to our campus. Texas State University is now the 5th largest university in Texas, and the only university in Texas to have graduated a United States President. So when you go out to interview for that coveted position, be proud of where you came from!

I’d like to thank the WISE Conference Planning Committee for inviting me to speak today and you for bearing with me as I shared my college memories. I hope that each of you finds your place in our world’s science and engineering community and that someday you take the time to reflect back on the impact that Texas State had on you!