

Business and Politics

1) Disastrous Engineering Mistakes and Process Safety

“There are no new accidents, just new victims.” A near miss is more truly labeled a near hit. Mistakes happen every day but when engineers make mistakes the results can be catastrophic. Engineering mistakes can lead to loss of equipment, loss of life or even loss of an entire town. This session will explore consequences of engineering blunders and the cost to the community.

Presented By: Robin Shepard



Robin L. Shepard, D.Sc. - Dr. Shepard is the owner and principal engineer of Shepard Safety, a company that specializes in safety training and education. She is also co-owner of Shepard Civil Engineering. She earned a Chemical Engineering Degree from MS&T/UMR and holds a M.S. and a Ph.D. in Chemical Engineering from Washington University.

Dr. Shepard has taught various classes in chemical engineering and safety education at Washington University as Adjunct Professor for 13 years. She has been a leader in safety education and takes great pride in her students winning the Safety Award in the annual AIChE Design Competition for a record three consecutive years. She has a very busy life with a husband and three active boys, one currently a sophomore at MS&T, the others ages 12, and 11.

2) Crisis in the Financial Markets and Economy - What's Going On?

Julie Stackhouse, Senior Vice President of Bank Supervision and Discount Window Lending of the Federal Reserve Bank of St. Louis, will walk through the events leading to the current crisis in the financial markets and economy. She will describe the role played by both the Federal Reserve and the U.S. Treasury during this time of distress and provide an overview of what might lie ahead.

Presented By: Julie Stackhouse



Julie Stackhouse is Senior Vice President and Managing Officer of Banking Supervision and Discount Window lending for the Federal Reserve Bank of St. Louis. Prior to joining the St. Louis Fed in September 2002, Julie was Vice President and Managing Officer of the Risk Management Department of the Federal Reserve Bank of Minneapolis. She also served as the Minneapolis Fed's Community Affairs Officer. In addition, she was formerly an officer with the Federal Reserve Bank of Kansas City prior to relocating to Minnesota in 1995. She served in many capacities in the Kansas City Banking Supervision and Risk Management areas, starting as an examiner in 1980.

Julie has a Bachelor of Science degree in Business Administration from Drake University. She is also a graduate of the Wisconsin Graduate School of Banking. She currently serves as a trustee on the St. Louis Area Board of the Missouri Council on Economic Education, the President of the Gateway Chapter of National Charity League, and a member of the Parish Council of St. Clement Catholic Church.

3) How to Win SWE Awards

SWE awards were created to give recognition to outstanding individuals, programs, sections, and regions. You know you have something great in your SWE section, why not show it off? Besides the fact that your section could win money, your team deserves a pat on the back. The presentation will cover a brief overview of all the individual and section SWE awards that both professionals can apply for. Learn about the application process and deadline from someone who has been through the process many times. Find out where the resources for the awards are and who can help.

Presented By: Kate VanDellen



As SWE Section President California Polytechnic State University in San Luis Obispo, CA (B059), Kate helped lead her team of 42 officers and over 300 members to victory, winning 8 awards at the SWE Conference in Baltimore, including the prestigious Most Outstanding Collegiate Section – Gold. Kate has been individually acknowledged for her academic, leadership, and industry achievements with awards such as Most Outstanding SWE Collegiate Undergraduate Member, Outstanding Women in Engineering, and Outstanding Graduating Senior for Image of the College of Engineering. She has always been grateful for the women who paved the road for her, and honored them in her “Letter to the founding women of SWE” which earned her second place in the “How SWE Helped Kick-Start My Career” contest.

Kate’s career outside of school started with internships working on missile defense and space systems with Lockheed Martin and on Extreme Short Take Off and Landing (ESTOL) aircraft with NASA. After graduating with her Bachelor’s in Science degree in Aerospace Engineering in June 2008, she moved to Wichita, KS where she now works at Cessna Aircraft Company as an Engineer on the fastest business jet, the Citation X.

Kate is currently the Publicity and Awards Chair for the Wichita Society of Women Engineers and the Region I Collegiate Membership Chair.

4) Making the Difference: Government Careers for Engineers

Join this panel discussion to speak with women who have applied and developed their professional skills through public service. Participants will share information on their career paths and what their jobs entail. They will answer questions and give valuable advice to anyone considering a career in government.

Presented By: Gephart Institute Panel



Tracy Chamberlain:

As a 21-year Federal Aviation Administration (FAA) employee, Ms. Chamberlain began her career as a Resident Engineer on projects ensuring that the contractors fulfilled the requirements in the government's contract specifications and drawings. She then transitioned into a Program Manager position coordinating all aspects of projects to repair and maintain the facility infrastructure of sites located within a four state district.

Ms. Chamberlain holds a B.S. in Civil Engineering and an MBA from Washington University. She is a Life Member of the Society of Women Engineers, is currently the St. Louis Section's COR Representative, and has held the positions of Vice-President, Treasurer and Counselor at the Section Level.

Karen Gilbertson:

Karen M. Gilbertson joined the Kansas Department of Transportation (KDOT) in December, 2000. She works in the KDOT Bureau of Design as a road designer, preparing plans for smaller projects and assisting in project management of consultant designed projects.

For seven and a half years, she served as an Intelligent Transportation Systems (ITS) engineer in the KDOT ITS Unit. Karen was responsible for helping promote and coordinate ITS activities within KDOT, other agencies, jurisdictions and States. Her project responsibility included issues related to: KC Scout, the metro area freeway management system; CMAQ and ramp metering projects in urban areas; the KDOT ITS Set-Aside Program; and ITS Architectures and early deployment activities for Wichita and statewide. For six years she served as the Kansas representative to ENTERPRISE, an ITS pooled-fund study committee comprised of eight states, Canada and the Netherlands.

Prior to joining KDOT, she gained over ten years of varied civil engineering design experience in the private sector. They included power plant civil and site work; railroad design; site development; earthwork; drainage; haul roads; utility coordination; surveys; and geotechnical investigations.

Karen holds undergraduate degrees in both Family and Consumer Science, and in Civil Engineering, from Iowa State University. She holds a Professional Engineer's license in the State of Kansas. She also successfully completed the Certified Public Manager program through the University of Kansas.

Karen is a native of Blue Earth, Minnesota. She is married with two grown sons, one of whom is also a licensed civil engineer, and two granddaughters. She resides in Prairie Village, Kansas with her husband Jim, a commercial property appraiser. Her favorite pastimes include sports, reading, canoeing, choral music and historical architecture.

Gale Rahmoeller:

Ms. Gale Rahmoeller is a Senior System Engineer with the Department of Defense, National Geospatial-Intelligence Agency (NGA). As a member of the Acquisition team, she is implementing the insertion of technology and innovation to transform and streamline the processes of the NGA infrastructure capabilities to reside on a modernized Service Oriented Architecture. She provides systems engineering support for the development and deployment transition of the segments; performing risk management, system requirements analysis, test and evaluation, and configuration management.

Prior to joining NGA, Ms. Rahmoeller served as a Program Integrator and engineer supporting the Army's Future Combat Systems (FCS); the largest Army acquisition program integrating multiple complex systems including manned and unmanned ground and air vehicles, and communication and sensor systems. She ensured product integration and provided oversight of contractor performance to provide successful demonstration of the initial phase linking communication between vehicles and sensors. Her career of over twenty years in the government also includes serving as an Aerospace Engineer with Army Aviation supporting Apache and Black Hawk helicopters. Ms. Rahmoeller provided alternate processes or procedures to Iraq forces to meet mission readiness and ensure flight safety. As the corrosion protection and control Program Manager, she provided technical expertise and coordination to resolve corrosion issues impacting cost, schedule and performance; and develop processes or alternatives to eliminate or reduce the use of ozone depleting chemicals and hazardous materials.

She is a senior member of SWE and is currently serving as Treasurer for the St. Louis section.

Ms. Rahmoeller graduated from Purdue University with a BS in Chemical Engineering in 1979. She also holds a MBA in Management and Finance from St. Louis University, awarded in 1992. Ms. Rahmoeller is a member of the Defense Acquisition Corps (DAC) and is Level III certified in Systems Planning, Research, Development and Engineering (SPRDE), and Level II in Program Management.

Lieutenant Colonel Lynnane E. George:

Lieutenant Colonel George is Associate Professor of Astronautics, Department of Astronautics, United States Air Force Academy. She is responsible for the Department of Astronautics curriculum, personnel, research, budget, long-range planning, faculty development, and cadet instruction. The Department of Astronautics helps produce the finest Air Force officers in the world who live our core values and understand space.

Lieutenant Colonel George earned her commission from ROTC at the Georgia Institute of Technology in 1988 with a BS degree in Mechanical Engineering and MSME from Ga Tech in 1989. She began her Air Force career in the Defense Satellite Communication Program Office at Los Angeles AFB, California where she served in the Mechanical Engineering Branch. She was then selected for a one-year Education with Industry program with the Aerospace Corporation, where she performed launch vehicle vibrations and launch wind loads analyses. She then moved on to the Titan System Program Office where she was the Flight Loads and Dynamics Manager for two years before moving to a mission management position. As mission manager for the Titan IV/Centaur mission TIV-23, she was responsible for all integration, planning, technical analysis, mission specific hardware design and procurement, contracting actions, launch readiness, and launch operations for the launch. TIV-23 was launched successfully from Cape Canaveral on 14 May 1995. She next moved to the US Air Force Academy in 1995, where she served as an instructor and later professor of astronautics as well as Director of Research. She then returned to Georgia Tech to pursue her PhD in Mechanical Engineering and completed her research dissertation "Active Vibration Control of a Flexible Base Manipulator" and degree in 2002. She next moved to the Air Force Research Laboratory's Space Vehicles Directorate at Kirtland Air Force Base, New Mexico. At Kirtland, she led a 90 person branch performing research in six spacecraft technology areas. She also served as Acquisition Command Trainer and Mentor in the Office of Military Cooperation in Afghanistan for a five month period before returning to the US Air Force Academy in 2005. Lt Col George is the recipient of the Air Force's 2008 Women's History Month Science Technology Engineering and Math Role Model Award and the American Institute of Aeronautics and Astronautics Rocky Mountain Section Educator of the Year for 2008.

Lieutenant Amy Yoon:

A native of San Pedro, California, LT Yoon received a Bachelor of Science degree in civil engineering with a specialization in structures from the University of California - Irvine in 2003. She was commissioned with the United States Navy on April 23, 2004, after completion of Officer Candidate School in Pensacola, Florida.

After her commission, LT Yoon reported to the U.S. Naval Academy Public Works Department in Annapolis, Maryland, from July 2004 to July 2006. There she served as Customer Service Officer for the Facilities Maintenance and Engineering Division, Transportation Officer, and Special Events Officer, followed by an assignment as Energy and Utilities Officer, developing energy conservation projects and overseeing all utility systems on Naval Station Annapolis and the U.S. Naval Academy campus.

Her next assignment was with Naval Mobile Construction Battalion ONE THREE THREE from July 2006 to October 2008. She started out as Engineering Officer for the Operations Department followed by an assignment as the Assistant Officer in Charge of Detail - Camp Buehring, where she supervised contingency construction projects of 89 U.S. Navy Seabees and the U.S. Army 186th Combat Service Engineers. The following homeport, she served as Assistant Company Commander to Echo Company and the Chemical-Biological-Radiological Officer. Her second deployment with NMCB 133 was as Officer in Charge of Detail - Pacific Partnership Fly In Echelon, where she deployed 20 personnel to the Philippines, Papua New Guinea and Micronesia to execute 12 humanitarian construction projects to underserved regions of the Asia-Pacific Region.

LT Amy Yoon is currently serving as the Civil Engineer Corps Accessions Officer for the Northeast region, assigned to Naval Facilities Engineering Command Midwest, Great Lakes, Illinois.

LT Yoon's awards include the Navy Commendation Medal and Navy Achievement Medal. She is an Engineer in Training for the state of California and a Seabee Combat Warfare Officer.

Robin Hattori - moderator:

Robin Hattori has worked at Washington University in St. Louis since 2002. She joined the University's Career Center and subsequently recruited for Undergraduate Admissions. In 2006, Robin was named program director of the Gephardt Institute for Public Service, a University-wide initiative that promotes civic engagement and community service. She manages the daily operations of the Institute, as well as plans and implements programs related to international service, political involvement, and service-learning.

Prior to joining the University, Robin coordinated international relations for the local government in Japan, and worked at nonprofits such as Progressive Youth Center and FOCUS St. Louis. Robin graduated from the School of Foreign Service at Georgetown University with a degree in East Asian Studies. She is currently working toward a master's degree in Non-Profit Management from Washington University.

Robin is involved with the local Asian community and serves on the Coalition of Asian Pacific Americans Steering Committee. Shortly after September 11, she took a year off to travel to 16 countries on her honeymoon, and received unforgettable goodwill from strangers around the world.

5) Creating Engineering and Science Outreach Programs for Young Girls

SASS-E Girlz is SWE's newest outreach program geared toward middle school classrooms. SASS-E Girlz is a career exploration program to help steer girls toward interest in science and engineering from a young age. The program is designed for SWE leaders to teach school counselors how to present the material, or for SWE leaders to present the material directly to the class. After this session, you should know enough about this program to begin implementing it in your own community.

Presented By: Christina Bishop



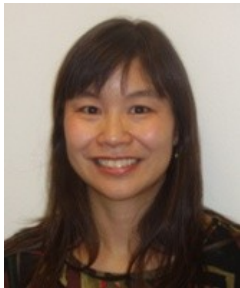
Christina Bishop works for Callidus Technologies in Tulsa, OK as a Special Projects Engineer, where she executes continuous improvement projects within the company. She is also a third year Chemical Engineering PhD Candidate at the University of Tulsa. Her research deals with the characterization of the polymer electrolyte used in nano-batteries. She attained her BS in Chemical Engineering from the University of Tulsa in 2005 and worked for Michelin Tire Co. before returning to school.

Career and Professional Development

1) Finding and Applying for Federal Opportunities

Applying for a job with the government requires patience and know-how. In this interactive session, learn how to navigate internet resources and find out what to expect in the application, interview, and security clearance process.

Presented By: Gephart Institute



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Michael Chapin:

Michael has over 9 years of professional Human Resources experience. As an HR generalist mostly in the roles of HR Manager and Regional Manager for two Fortune 500 companies, Michael has worked extensively in the areas of Training, Organizational Development, Employee Relations, Safety, and Recruitment for facilities in the United States and throughout the world. Currently, Michael is using his HR experience to counsel and advise students and alumni in their career development for Washington University in St. Louis. Michael was the recipient of the "Advisor of the Year" award given by the engineering student council in 2006 for his work in the School of Engineering. Michael earned his B.A. in Business from SUNY Cortland, an M.S. in Managerial Systems and Human Resources Management from Clarkson University and is currently working toward a second Master's degree in Career Counseling from University of Missouri – St. Louis.

2) From The Employer's Perspective

Are you prepared to meet your next employer today? This workshop will focus on getting you ready to meet your next employer by looking at yourself from the employer's perspective. Recruiters are looking for those "can do" and "will do" attitudes that shine through an outstanding first impression; are you prepared? Participants will walk away with important keys to understanding what employers are looking for, how to gain employers' attention, and how to maintain contact with recruiters.

Presented By: Sherrie Aach



Sherrie Aach serves as a Business Development Specialist in The Career Center at Washington University in St. Louis. Sherrie works primarily with engineering and technology employers; identifying, cultivating, and maintaining employer relations while striving to develop full time job opportunities for engineering and technology students. Sherrie enjoys assisting employers to develop new strategies and customized approaches for connecting with students. In addition, she oversees the coordination of on-campus recruiting programs: An Evening with Industry, Cheap Lunch, and serves as liaison for Alumni & Development.

Sherrie began a twenty year career in the field of human resource communication with NAS Recruitment Communications as an Account Executive before being promoted to Regional Manager and then to Executive Regional Manager and National Director of Education and Development. She traveled within the NAS network of 38 offices delivering sales, management training, talent engagement strategies, and networking advice. Prior to joining The Career Center, she held a position with the St. Louis Post Dispatch as Director of Recruitment Advertising.

Sherrie has held the position as Vice President of Professional Development on the Board of Directors for Gateway Career Services Association.

3) IDEAS with Results

Creativity doesn't just happen; it's a process that anyone can learn, develop and nurture. In this fast-paced, fun session you'll learn about IDEAS -- a 5-step process for generating creative solutions for any problem -- and discover ways to apply it to your daily work. This simple process will work for any individual or team. More effective ideas are within reach! Come and learn!

Presented By: Sharon Reus



Sharon Reus is a coach and consultant with more than 25 years experience in communications and marketing. A former magazine publisher and executive producer, she is an entrepreneur whose resume includes work in advertising, journalism, broadcast TV, public relations and corporate communications. Sharon coaches businesses and individuals, facilitates brainstorming sessions and guides entrepreneurs through an annual planning process.

4) Reverse Mentoring for Web 2.0

Do you feel like you're missing out on parts of the internet because you didn't grow up with it? Are you a new professional who thinks the world would be a better place if everyone used the web like you? The experiences of your generation have a big effect on how you use technology. This session is about Reverse Mentoring: learning across generations regardless of traditional experience. We'll discuss the different generations and their unique work and communication styles first. Then we'll focus on some of the new web tools like Facebook, Wikipedia, and Twitter and talk about how everyone's unique perspective is important.

There will be an interactive computer lab segment from 11:15-12:15pm in the Taylor Experimental Computer Lab in the Olin Business School. This will be supplementary to Kim Burton's "Reverse Mentoring for Web 2.0" session where audience members can gain hands-on experience with the tools learned during the presentation. Kim will be there for support and guidance.

Presented By: Kim Burton



Kim Burton is an electrical engineer at Cessna Aircraft in Wichita, Kansas. She has an Electronics Engineering Technology degree from Pittsburg State University, and a masters in electrical engineering from Wichita State University. She loves the internet and maintains several web pages in her spare time, including the Wichita professional section site. She lives in downtown Wichita with her husband, a club DJ and fellow technology enthusiast. They have zero children and five computers. Kim is also a mentor for Kansas BEST high school robotics program and 2008 chair of the Cessna Women's Informal Network Group (WING). She has been involved with SWE for nearly a decade.

5) One Husband, Two Daughters, Three Jobs: Keeping it all in Perspective

I will be talking about the lessons of balancing my family, my husband's career and my career over my 20+ years in both corporate America and with entrepreneurial ventures. I will give examples of approaches that have worked for me - and some that have not worked.

Presented By: Victoria Gonzalez



Ms. Gonzalez brings more than 20 years of experience with both early-stage start-up and Fortune 500 companies. As president and chief executive officer of the Nidus Center for Scientific Enterprise, Ms. Gonzalez is responsible for developing and implementing a strategy to meet the needs of life science start-ups in the St. Louis area.

Since leaving Monsanto in 2000, Ms. Gonzalez has played a unique role in the St. Louis business community by providing start-up management expertise to entrepreneurs. In this role, Ms. Gonzalez worked side-by-side with founders on business plans, intellectual property strategies, market opportunities, raising money, building management teams, developing products, licensing technology, and growing revenue.

Ms. Gonzalez has played an executive management role in more than six St. Louis start-up companies in several industries including healthcare services, medical devices, biopharmaceuticals, and drug delivery. Most recently, Ms. Gonzalez was CEO for Graphic Surgery LLC, a healthcare services company based in St. Louis.

Ms. Gonzalez also has extensive experience working in the corporate environment. Many of her roles at both Monsanto and Du Pont Company involved leading intrapreneurial business ventures. This experience provides a valuable perspective for start-up companies looking to license or sell technology to large corporations.

Ms. Gonzalez received a B.S. degree in electrical engineering from Texas A&M and an MBA degree from Washington University in St. Louis. She has remained very active with Washington University, participating in the Executive Alumni Committee and the Olin School Mentoring Program, as well as speaking at various student events. Ms. Gonzalez currently serves on the board of the Missouri Venture Forum, BRDG Park, the Missouri Technology Corporation and the Saint Louis Academy of Science.

Collegiate Leadership Coaching Committee/Leadership Coaching Committee

1) CLCC: Building Membership

After this presentation, the participants will have information and tools to develop a plan to increase their membership through recruitment and retention initiatives. Upon completion of this presentation, participants should:

- Understand why people join organizations
- Be prepared to develop a recruitment and retention plan for her/his SWE section
- Gain ideas for how to target new members and to retain members
- Be able to personally recruit new members

Presented By: Callie Baker



Callie Baker is an undergraduate student in aerospace engineering at Wichita State University. She is a Collegiate Leadership Coach for Region I and vice-president of the WSU Collegiate Section. Callie is currently a cooperative education student at NASA Dryden Flight Research Center in Edwards, CA.

2) CLCC: Leadership

The Leadership Presentation contains a brief overview of different leadership theories, leadership types and situations where leadership can be effectively applied. It is best given to a group of young leaders or students who are thinking of assuming larger roles within SWE. After completion of this presentation, participants should have explored the role of self-awareness in leadership, understand the importance of clarifying personal values, and gained insight into their personality preferences for how they approach decisions.

Presented By: Gretchen Gonzales



Gretchen Gonzales graduated from Computer Engineering on December 2008 from the University of Nebraska-Lincoln. She has been a Collegiate Leadership Coach for 2 years and has been an active member is SWE for the past 5 years.

3) CLCC: Women in Engineering/Professionalism

The Women in Engineering (From College to Career) Presentation is designed to help women in SWE understand the differences between college and the real world. The presentation gives a brief comparison of college life and work life and provides some helpful hints for making the transition from college to career.

Presented By: Sara Hyatt



Sara Hyatt graduated from Washington University in 2005 with a BS in Civil Engineering and a MS in Structural Engineering. She currently works for HNTB Corporation as a bridge engineer. Sara was active in SWE throughout college and is currently a Region I Collegiate Leadership Coach, the counselor for the Washington University section, and the Chair of the Outreach Committee for the St. Louis professional section.

4) LCC: Succession Planning

Learn ways to ensure continuity of leadership within your section. Discover ways to avoid transition problems and avoid member burnout. Learn how to create your own section succession plan and put it into action.

Presented By: Janis Pfingsten



Janis is a retired civil engineer living in Omaha, Nebraska. She is married, with 2 teenage daughters. Janis worked for the Corps of Engineers for ten years, designing municipal and hazardous waste landfills. Currently, she gives herself the title of "domestic" engineer. She keeps busy with helping out at her daughter's schools, speaking at schools about careers in engineering, and overseeing Girl Scout badge programs that the Eastern Nebraska section sponsors.

5) LCC: Membership

The Membership Module provides your section leadership with a firm understanding of SWE membership, and how to "sell SWE" to prospective members, resulting in increase membership and participation in your section. Other topics include finding the engineers in your area, recruiting and involving members, adding value to SWE membership, understanding needs and wants of members.

Presented By: Suzanne Dodson



Suzanne Dodson earned her BS degree in Chemical Engineering from the University of Tulsa in 2002, and currently works as a Risk Engineer at Magellan Midstream Partners. She is the Leadership Coach for Region "i", and has worked with many sections in the region to strengthen their SWE section. She lives in Tulsa, OK with her husband, 2 year old daughter, and newborn baby girl.

Energy and the Environment

1) Environmental Engineering in China: Notes from a Field Trip

In July 2008, Dr. Ruth Chen and I accompanied eleven undergraduate engineering students on a two-week trip to Beijing as the cornerstone of the inaugural offering our department's course "International Experience in Energy, Environmental and Chemical Engineering". Our host institutions were Tsinghua University and Peking University, and through a series of lectures and field trips were learned about the status of air quality in China and efforts to improve air quality in Beijing in the years leading up to the 2008 Summer Olympic Games. This presentation will reflect upon the lessons learned during that visit as viewed through my lens of working in air quality science, engineering, and policy over the past two decades. While the emphasis will be on China, the status and challenges of urban air pollution in Asian cities in general will be discussed.

Presented By: Jay Turner



Jay Turner is an Associate Professor in the Department of Energy, Environmental and Chemical Engineering at Washington University in St. Louis. He earned B.S. and M.S. degrees from UCLA and a doctorate from Washington University, all in Chemical Engineering. Jay's research focuses on environmental systems with emphasis on air quality characterization including fine particulate matter measurements and data analysis and he is currently working with stakeholders in various states on technical aspects of fine particulate matter air quality management and planning. He is a five-time recipient of the Engineering School's Professor of the Year Award (conferred by the school's graduating class), and is a 2003 recipient of the university's Distinguished Faculty Award which recognizes collective contributions to research, education and community service. Jay is a member of the Foreign Faculty at Fudan University in Shanghai, China, where he will teach a graduate course in March 2009.

2) Tour of the DUC and LEED certification

The tour will explore the William H. and Elizabeth Gray Danforth University Center at Washington University in St. Louis, emphasizing its design as a Leadership in Energy and Environmental Design (LEED)-NC Gold Certified structure. The Danforth University Center is a three-story, 116,000-square-foot facility constructed entirely in the collegiate Gothic style. The building provides 522 underground parking spaces and is home to the Career Center, the Graduate Center, and the offices of the undergraduate student government, Student Union. There are also studios for media groups such as the student-run television station (WUTV) and a recording studio. Offices for the Student Life newspaper, other print media, and event services are included, along with office space for Campus Life, the department that oversees student activities, Greek life, community service, and others.

The Dains Dining Hall and the Tisch Commons, including a massive Great Fireplace, dominate the first floor. A café and Ibbby's, a bistro with table service, add to the campus dining choices. A landscaped courtyard includes an outdoor fire pit, tiered seating, and game tables available for students to use while enjoying the weather.

The building has been designed as a green structure. For example, construction has included the use of many recycled products and materials and more than three-quarters of the construction waste was recycled. The Danforth University Center adheres to the University's commitment to sustainability, energy and environmental responsibility for the future.

Presented By: Bill Darby & Brooks Critchfield



Bill Darby:

Bill Darby is Professor of Engineering in the Department of Energy, Environmental and Chemical Engineering and Director of the William H. and Elizabeth Gray Danforth University Center -- the "DUC" -- at Washington University in St. Louis. He also works closely with Washington University's Offices of Undergraduate Admissions and Financial Planning. He regularly teaches, with Dr. Ruth Chen, a course in the engineering school on environmental risk management. He holds a Ph.D. from Carnegie Mellon University and has been a faculty member at Washington University since 1976.

S. Brooks Critchfield, AIA, LEED AP:

Brooks Critchfield is a licensed architect, LEED-Accredited Professional, and sole-practitioner and owner of a Missouri-state certified Woman-Owned Business Enterprise. She has a Bachelor of Arts in History from Washington University, 1986, and a Master of Architecture I from Harvard University, 1993. She specializes in green design and construction, served as the green building consultant at the DUC, and is currently working on other WU projects, including the WU Engineering Building and South 40 dormitory replacement projects. One-hundred percent of her current projects are pursuing LEED-certification.

3) The Impact of Sustainability

The presentation will focus on a few key points including: 1) Definition of sustainability and moral imperative 2) Overview of green building rating system and growth trends 3) LEED overview 4) LEED application at Alberici's headquarters

Presented By: Christy Cunningham-Saylor from Vertegy, an Alberici Enterprise



Christy serves as Vertegy's Environmental Specialist, bringing experience and passion to Alberici's new sustainable consulting service. A graduate of Oklahoma City University with a background in biology and currently pursuing a graduate degree in environmental education, Cunningham-Saylor joined Vertegy in December 2005. As Environmental Specialist, she works closely with clients who are seeking the benefits of sustainable design and construction, which include significantly reducing life cycle costs, conserving natural resources and enhancing the quality of work life for the building's occupants. Christy is a member of the St. Louis Regional Chapter of the U.S. Green Building Council and a LEED® Accredited Professional.

About Vertegy:

In March of 2005, Alberici Corporation announced the formation of a branded, sustainable consulting service named Vertegy. Vertegy brings a different perspective to sustainable building — it is hands-on. During the Alberici Headquarters project, Vertegy

pulled the sustainability thread through the entire process...from pre-design to project completion and on to Platinum LEED certification. Vertegy has become a leader in sustainable construction and LEED process administration, with 15 LEED certified projects completed to date and more than fifty LEED registered projects in progress, totaling over 6 million square feet.

4) How local energy consulting companies are saving energy

A panel of four women, all of whom work as energy efficiency professionals, discuss their work. Topic will include the challenges of working in the building industry, their experiences and backgrounds, and the opportunities in and direction of the field. There will be a brief overview of the topic and then the time will be opened up for questions.

Presented By: Butterfly Energy Works



S. Brooks Critchfield, AIA, LEED AP:

Brooks Critchfield is a licensed architect, LEED-Accredited Professional, and sole-practitioner and owner of a Missouri-state certified Woman-Owned Business Enterprise. She has a Bachelor of Arts in History from Washington University, 1986, and a Master of Architecture I from Harvard University, 1993. She specializes in green design and construction, served as the green building consultant at the DUC, and is currently working on other WU projects, including the WU Engineering Building and South 40 dormitory replacement projects. One-hundred percent of her current projects are pursuing LEED-certification.

Beth Burka:

Beth is the founding principal of Energy Matters, Inc and Utilitalk.com. Since 1984, she has worked in the energy field as an HVAC system design consultant, in new product development for an HVAC manufacturer, as a technical marketing representative for a utility company, and as an energy manager. She is a professional engineer in Missouri, a certified energy manager, and a graduate of University of Missouri-Rolla and Washington University.

Alexandra Templer:

Alex is the lead Energy Consultant at Butterfly and brings a passion for learning and sharing her knowledge to the job. She offers our clients a depth of understanding of building science as well as her experience working successfully with homeowners and professionals in the process of designing and updating of buildings. Alex is also the "operations engineer" of the energy modeling software program we use that allows for quantitative analysis of building performance.

Alex is an honors graduate from Washington University and had been studying and practicing sustainable building science for the past three years. She has completed over 30 hours of professional training from the US Green Building Council and is currently studying for LEED accreditation. She is a member of the St. Louis chapter of the US Green Building Council and the Emerging Green Builders Committee.

Christy Cunningham-Saylor:

Christy serves as Vertegy's Environmental Specialist, bringing experience and passion to Alberici's new sustainable consulting service. A graduate of Oklahoma City University with a background in biology and currently pursuing a graduate degree in environmental education, Cunningham-Saylor joined Vertegy in December 2005. As Environmental Specialist, she works closely with clients who are seeking the benefits of sustainable design and construction, which include significantly reducing life cycle costs, conserving natural resources and enhancing the quality of work life for the building's occupants. Christy is a member of the St. Louis Regional Chapter of the U.S. Green Building Council and a LEED® Accredited Professional.

Brittany Hagedorn - moderator:

Brittany is currently in her fifth year at Washington University, pursuing dual degrees: a bachelor's in Systems Science and Mathematics and an MBA with a focus in entrepreneurship. She is also the website manager for Butterfly Energy Works, charged with keeping information up to date and continually managing projects to bring new and interesting content to the site. She has worked with the company in many facets including consulting, research, and sales.

Brittany has a passion for various social causes, with a particular interest in the environment. This has led to her continued involvement with Butterfly, as well as her activity with several non-profits including the Haven of Grace and Engineers Without Borders.

5) Oil Business Issues and Perspective

A discussion on some of the issues and perspectives of the oil industry. Topics discussed will include the world's oil producers and consumers and business decisions. This aims to provide a better understanding of the oil industry and an open forum for discussing current concerns.

Presented By: Sarah Chester



Sarah Chester currently works as a Project Engineer at BP's Whiting Refinery just outside Chicago IL. She has been in her role for 2.5 years. In her previous position she worked as a Technology Development Engineer for BP Chemicals. Outside of BP she is active with SWE recruiting. Sarah received her BS in Chemical Engineering from the University of Cincinnati.

Technology in Engineering

1) Story Telling Alice

There has long been an implicit assumption within the computer science community that if we can make the process of learning to program easier for people, we will attract a larger and broader audience of people into computer science. Certainly building supportive programming environments is necessary in order to bring more people to computer science. But, it is not sufficient. In this talk, I will describe the development of Storytelling Alice, a programming environment that gives middle school girls a positive first experience with computer programming. Rather than presenting programming as an end in itself, Storytelling Alice presents programming as a means to the end of storytelling, a motivating activity for a broad spectrum of middle school girls. The storytelling focus makes programming more compelling to middle school girls. Storytelling Alice users spent 42% more time programming than users of a generic version of Alice. Further, Storytelling Alice users were more than three times as likely to sneak extra time to continue working on their programs (51% of Storytelling Alice users vs. 16% of Generic Alice users snuck extra time).

While a motivating context for learning computer programming is necessary to increase the number of young students who learn to program, it is not sufficient. For many pre-high school students, formal opportunities to learn computer science simply do not exist. We are currently working on a new system called Looking Glass which maintains storytelling as a motivating context and focuses on developing user interface support that enables middle school aged children to easily and effectively teach themselves using programs created by peers. Looking Glass will incorporate tools that enable users to identify sections of peer written programs that interest them and then follow automatically generated tutorials to learn how to create the selected sections of those programs in their own context.

Presented By: Caitlin Kelleher



Caitlin Kelleher is currently an Assistant Professor of Computer Science at Washington University in St. Louis. She received her bachelor's degree in Computer Science from Virginia Tech and her Ph.D. in Computer Science from Carnegie Mellon University with Professor Randy Pausch. Caitlin was a National Science Foundation Graduate Fellow.

2) Brain Computer Interfaces: The science behind The Bionic Woman

One of the goals of Brain Computer Interface technology is to restore function to paralyzed individuals either through direct brain control of an artificial device (e.g. computer mouse or robotic arm) or functional neuromuscular stimulation of a paralyzed limb. This talk will discuss recent advances in both recording brain activity via novel implantable microelectrodes as well as discuss new techniques in neuromuscular stimulation.

Presented By: Dan Moran



Daniel Moran received his undergraduate degree in Biomedical Engineering from the Milwaukee School of Engineering and his Ph.D. degree in Bioengineering from Arizona State University. Given his interest in neural engineering, Dr. Moran performed a postdoctoral fellowship in Systems Neurophysiology at the Neurosciences Institute in San Diego. Currently, Dr. Moran is an Assistant Professor in Biomedical Engineering at Washington University with joint appointments in both Neurobiology and Physical Therapy.

Dr. Moran's primary research interest is in the area of voluntary motor control. His lab investigates how various neural substrates control voluntary arm movements. Furthermore, Dr. Moran's lab applies these scientific results to the development of novel neuroprosthetic devices. Current research projects involve controlling complex 3D musculoskeletal arm models with cortical signals. This research utilizes both intracortical microelectrode recordings in non-human primates as well as electrocorticographic recordings in human patients. The goal of this research is restore voluntary arm control to paralyzed individuals via motor cortical recordings and function electrical stimulation of arm muscles or prosthetic limbs.

3) Experiencing Engineering from Two Different Perspectives

Greg Miller will present two different perspectives of operating an engineering firm. Engineering and business. Engineering will cover how Innoventor operates as an engineering firm and business in terms of growing the business from start-up.

Presented By: Greg Miller from Innoventor Inc.



Greg Miller has a BS in Aeronautical Engineering and MS in Mechanical Engineering from Purdue University. He also holds a Masters of Engineering Management and Graduate Certificate in Technological Enterprise from Washington University. He has worked 11 years for McDonnell Douglas in aerodynamic development on the F/A-19 E/F Superhornet. He is currently the Chief Accounting Officer for Innoventor Inc., a technology driven design/build engineering firm diversified across multiple industries. Greg will share general overview of Innoventor, as well as, his career as an engineer and transition into business / finance.

4) Engineers and Technology at Monsanto

Maggie will give a brief overview of Monsanto's journey as a company since its inception in 1901, and the opportunities that an Engineering background provides in a changing and exciting environment. She will share her personal journey from "new-hire" Process Engineer in one of Monsanto's chemical manufacturing facility to Master Black Belt in Six Sigma and Lean Practitioner to her current role as Manager for Environmental Safety and Health. (And the balancing act and joy that a husband and two children add to the journey!)

Presented By: Maggie Cole



Maggie Cole, was selected recently to lead Monsanto's Vehicle and Off the Job Safety in addition to Monsanto's North America Commercial Safety. Maggie's new title will be Global Manager of Environment, Safety, and Health.

Most recently Maggie held the position of Global Seeds Six Sigma Coordinator and Lean Manufacturing Lead. She graduated from the University of Missouri–Columbia with a B.S. in Chemical Engineering and began her career with Monsanto in 1984 as a Process Engineer at the Port Plastics facility in Cincinnati, Ohio. She progressed through manufacturing supervision at Port, transferred to the J.F. Queeny plant (Monsanto's original production plant) to run the Research Pilot Plant operations, and then transferred back into manufacturing at the Carondelet plant in St. Louis.

Maggie then moved to Monsanto's Headquarter location in Creve Coeur in 1991 as a Production Planner, and assumed the role of Package Development Manager in 1994 with responsibility for package engineering and procurement, and in 2000, moved into the Distribution Manager role within Logistics. Maggie went through Six Sigma Black Belt training in 2000 and completed her Master Black Belt training in 2003. She has been functioning in a Six Sigma leadership and training capacity since then with responsibility for in-house curriculum development and training of in-house Green Belt and Black Belt candidates and Lean Practitioners. Maggie has been a key resource for the outreach efforts for Six Sigma and Lean expansion outside of manufacturing.

Maggie clearly remembers her undergraduate commencement speech delivered by the Dean of Chemical Engineering, he spoke candidly when stating: "Congratulations you have learned nothing! The only thing you have learned is 'how to learn' - your way of thinking, problem solving, and how you apply it - this will be the turning point in your career." Maggie held tightly to that advice and it has served her very well for almost 25 years.

Maggie is considered one of the top performing engineers at Monsanto. Maggie would like to call particular attention to the perception of women in engineering as engineering may often be considered a non- family-friendly career choice. From Maggie's real life experience, she believes the contrary is actually true. Maggie (with the support of Monsanto) drove her own career – including taking part time roles at Monsanto for a number of years, until returning full time to her career while still being a "hands-on" Mom to 2 teenage children.

Maggie has been married 20 years to another Chemical Engineer and they have 2 teenage children that are also considering becoming – you guessed it, Chemical Engineers!

"The best prize that life offers is the chance to work hard at work worth doing."
Theodore Roosevelt

5) 787 Dreamliner, A New Airplane for a New World

I will discuss how the 787 meets the needs of the modern aerospace market -- focusing on technological advances to improve fuel efficiency, reduce noise signature, and reduce maintenance costs. Hopefully I will have approvals to add to the structures discussion with information on my current project, including some test specimens for show and tell.

Presented By: Julie Rieffel



Julie Rieffel graduated from the University of Missouri-Rolla in 2000 with a degree in Aerospace Engineering. Prior to graduation she had an internship with Boeing in Seattle working on smart weapons integration on the B1-B bomber. After graduation, she went to work at Boeing in St. Louis. After a year in research and development of structural analysis tools, she worked for 5 years as a structures engineer on the F-18 Super Hornet. She has spent the last 3 years on commercial programs, both with the 787 Dreamliner and the 747-8. Her current project is the design and analysis of seat tracks on the 787.