My Dreams, My Life, and My Gradual Journey to Process Safety

By Dr. Richart Vázquez-Román

I suppose that several factors participate in the build-up of our own personality. The social and economic environments surrounding us impose their footprints on our behavior and even on our dreams. I am strongly convinced that clones will never react all time in the same way since they will never have parallel lives. In fact, even we would react differently for similar scenarios but occurring in different times. I agree with Calderón de la Barca, the Spanish poet and writer 1600-1681, in his most famous monologue: Life is a Dream. Dreaming makes you feel sometimes tired but dreams will irremediably guide you to achieve your individual goals. I was invited to write about myself and how my research interest became inclined to safety. I couldn’t find another way to make this story attractive but by talking about my dreams, I hope you enjoy this quick tour.

The starting point for my dreams is the Sierra Madre del Sur Mountains in Guerrero state, Mexico. During the 50’s, living in these rural zones was hard and communication with the rest of the world extremely difficult. Surrounded by mountains, television forecasting was almost impossible before the 90’s. Could you rationalize research on safety under these circumstances? Safety should mean surviving! “We live, while we see the sun, where life and dreams are as one” All members of my family, parents, brothers, cousins, etc. were born in Oxtotitlán, the place of caves and clean water. However, my parents migrated for a short period to another village, Apaxtla, which is about 10 km far from Oxtotitlán and it was there where I was born. USA was demanding help to rebuild this country and my father became one of those dreamers hoping to achieve what eventually was called the “American dream.” Having my father abroad, it was my sister, and a series of official mistakes, that led to my name: Richart.

Dreams - Continued on page 3
As horrific and tragic as the incident in BP’s Texas City refinery was, the response and investigations that resulted from it very equally unparalleled. Never before in the process industry’s history has a company been the subject of such numerous investigations – regulatory, internal, as well as recommended investigations. Apart from investigations and analysis launched as a result of lawsuits, four separate investigations worthy of mentioning are:

- BP’s own internal investigation
- OSHA’s investigation, citations, and record fines
- Baker Panel report
- CSB Investigation Report

Some of the issues that have been brought to our attention as a result of these investigations include Safety Culture, Metrics for Process Safety and Personnel Safety, Facility Siting, Risk awareness and risk management, Atmospheric Venting, Process Upset Management/Alarm Management, Incident Investigation, Human Factors, Procedures, Training, and Learning Organizations.

The Baker Panel report makes specific findings with respect to the following issues:

- Process Safety Leadership
- Integrated and Comprehensive PSM System
- Process Safety Knowledge and Expertise
- Process Safety Culture
- Clearly Defined Expectations and Accountability
- Leading and Lagging Indicators for Process Safety
- Process Safety Auditing
- Board Monitoring and Support for Line Management

And finally, the CSB report issued just recently makes recommendations and findings with regard to the following issues:

- Standards for Metrics and Fatigue
- OSHA Inspections
- MOC for Organizational Changes
- Board Members
- Ethics
- Incident Reporting and Investigation
- Staffing and Training

All of these issues are important and deserve the commitment and resources of all stakeholders for their solution. I could talk about all of them but for the sake of brevity, let me just address a few. First, it is clear that safety starts at the board room with the involvement of highest level people in the organization. Second, is the need for leading and trailing indicators and more importantly the rigorous use of these indicators in improving safety performance. Trailing indicators such as fatalities and injuries can only be reduced by an overall approach that includes collection, analysis, and application of leading indicators in managing safety programs. Third, the indicators and management of process safety should be conducted separately from personnel safety issues. Both process safety and personnel safety are important but they must have separate indicators and be managed separately.

Incident investigation. Learning organizations. Ethics. Education and training.

M. Sam Mannan
You may have heard English and French pupils referring to each other as the natural enemies. Well, you could apply the same to Apaxtla and Oxtotitlán! Even as a child, I never felt fully accepted in Apaxtla since all my family belonged to Oxtotitlán. My father came back from USA and soon he decided to return to his own village. I was 8 years old and I had to start fighting to be accepted in the rather new society. Fortunately I won that battle and became fully accepted and I took Oxtotitlán as my little mother country. As a matter of fact, I recently got a document sort of recognition of my work from the Village Circle, which I really appreciate very much. My feelings to my adoptive homeland were ratified when I came back to Apaxtla to get my secondary (high school) studies. “Man dreams the life that is his, until his living is done.” A spirit of competence appeared in this period since I had to prove that I could be as good as or even better than any “Apaxtlense” and I accepted the challenge of the academic sport: “The king dreams he is king, and he lives in the deceit of a king.”

Soon I had to decide about my future. The only thing that mattered for me was that I didn’t want to be a teacher. All my brothers are teachers as it was essentially the only option since government was supporting not only tuition but also giving scholarships. It must be fate that put me in Mexico City to continue my academic studies. What a big, beautiful, but scary city! I passed my admission exams and there I was ready to take my three years of pre-university courses. Thus I achieved the point where I should define my profession. The typical questions such as “is this my real vocation?” were tormenting my head. I was pretty much inclined on mathematics but somebody else convinced me that mathematicians end up as a sort of teachers, which I didn’t want to: “Man dreams whatever he be, and his own dream no man knows.”

I got my B.Sc. degree from ESIQIE-IPN where I graduated as a Petroleum Chemical Engineer. A couple of years before finishing my B.Sc. studies I joined the Mexican Institute of Petroleum through a scholarship, which made it rather easy to find a job in the same place when I graduated. I became a part of the team in charge of developing and expanding the capabilities of a process simulator very similar to ASPEN but originally developed several years before ASPEN. During my extra time I started my M.Sc. studies on operations research. It was not complicated because the material I was covering on my courses either I knew a bit of it because of my job or I was about to apply it in another project. It is here where I became involved in using the process simulators to provide a reasonable explanation for some accidents occurring in the petroleum sector. However, I wouldn’t say that I was a safety man. Being so busy, how could I have a conscious awareness of safety?
Safety was merely a common sense activity. “And all the praise he receives is written in wind and leaves a little dust on the way.”

Trying to escape from the metropolis, I moved out to work for the Electrical Research Institute where I got involved in the development of a training simulator for the only one nuclear power plant in Mexico. The challenge was that models should be simplified but should reproduce the reality in real time. My staying in this Institute was short since I got the opportunity to start my Ph.D. studies at Imperial College under the supervision of Professor R.W.H. Sargent and J. Perkins. After finishing my Ph.D., I joined Instituto Tecnológico de Celaya, where I am still working and where one of the main activities consists on teaching! May I say that this is one of the activities I want most “And I dream that these present pains were fortunate ways of old.”

In Celaya, we organize a seminar where several well-known leaders in their respective areas have been invited to share their knowledge. It gave me the opportunity to know that Professor Jack Ponton, my Ph.D. external examiner, was interested in extending my research. So the opportunity to become a part of his group came and it put me in one of the most beautiful cities I know: Edinburgh. Then I was also accepted in Edinburgh Petroleum Services to get involved in a project to build a package to optimize the gas production. After finishing this package I came back to Celaya. Yet my dream didn’t really include safety.

Very recently, my luck in a Chinese restaurant said that chance favors those in motion. This sentence certainly applies very well to my life. My luck on process safety came in another of our seminars in Celaya where one of the offered courses called my attention. Could you guess who the lecturer was? Professor Sam Mannan, of course, who else? I didn’t have the opportunity to attend his lectures because it happened that I was the head of the Chemical Engineering Department and I had to attend several of those typical meetings when you have that position. However, the bee had nailed his sting. A couple of years ago, I visited Texas A&M and Professor Mannan gave me as a present my first book on process safety. Both Professor Hall, head of the Chemical Engineering Department in that period, and Professor Mannan brought me the possibility of spending my sabbatical here in the Chemical Engineering Department and the Mary Kay O’Connor Process Safety Center. Thus I arrived here, navigating in a new ocean of knowledge and hoping to contribute deeply in this important area. I am finishing up my one year visiting professorship here and returning to Celaya with a renewed sense of what the future holds. What is next? Could you tell me who guides our dreams?

“What is life? a tale that is told;
What is life? a frenzy extreme;
A shadow of things that seem;
And the greatest good is but small;
That all life is a dream to all,
And that dreams themselves are a dream.”

I have certainly felt tired several times for having dreamed but I shall never quit on dreaming.

(Quotations were taken from “Life is a dream,” Pedro Calderón de la Barca)
Recent Publications


Nominations Sought for 2007 Merit and Service Awards

The Steering Committee of the Mary Kay O’Connor Process Safety Center is accepting nominations for the Annual Merit Award and the Service Award.

Award nominations should be submitted to:

Dr. Sam Mannan
Mary Kay O’Connor Process Safety Center
Texas A&M University
Chemical Engineering Dept.
College Station, Texas 77843-3122
e-mail: mannan@tamu.edu

In addition to providing names and contact address for nominees, a biographical sketch of the nominee should be provided, as well as a statement of why the nominee deserves to be recognized. Please submit nominations no later than August 3, 2007.
First Annual Alumni Get-Together Held

The Mary Kay O'Connor Process Safety Center hosted the 1st Annual Alumni Get-Together of the Center at the campus of Texas A&M University in College Station, Texas on April 28, 2007. The former students visited from all over the United States to meet current students and visit their old haunts and tour the current Center facilities. The event also provided an opportunity for alumni to share their experiences with each other and the current students, and to visit with old friends.

Year 2000 graduates that were in attendance include Passaporn Sukmarg and Christina Sposato. Passaporn is with Bayer Chemical Company in Baytown, and attended with her husband Evan Piland. Christina, and her husband Bart Stephens, traveled from Rio Rancho, New Mexico where Christina works for Intel Corporation. 2002 graduate Gaurav Sharma, attended with his wife Julie, is with Kellogg Brown & Root in Houston. 2003 Alumni that were in attendance are Sanjeev Saraf, Abdulrehman Aldeeb, and Nir Keren. Sanjeev is with Exponent Failure Analysis Associates in Houston. Abdul, attending with his wife Alham, is with Berwanger in Houston. Nir traveled from Ames, Iowa, where he is an Assistant Professor at Iowa State University. 2004 graduates in attendance included Jane Wang, Brian Zhou, and Michela Gentile. Jane who is with the Center, attended with her husband Tao Yu and son Ray. Brian traveled from Santa Clara, California where he works for Applied Materials, Santa Clara. Michela is with BP America’s EPT - Integrity Management in Houston. 2005 graduates that attended are Jaffee Suardin, Migvia Vidal Vazquez, Cindy Wei, and Sumit Anand. Jaffee, with the Center, attended with his wife Anisa Safitri. Migvia is with Advantica in Houston. Cindy is working with DNV in Houston and attended with her husband Wei and daughter Kaylee. Sumit attended with his wife Anu and is working with Halliburton in Pearland. 2006 graduates that attended the get together are Jayming Fang and Jewel Obidullah. Jayming is with AMEC Paragon in Houston. Jewel is with Parsons Engineering in Pasadena, California where he lives with his wife and two-week old daughter. May 2007 graduates are Susan Mitchell, who will be working for ExxonMobil in Houston, and Divya Narayanan who will be working with Shell E&P.
The afternoon began with a meeting at the Jack E. Brown Engineering Building, the home of the Center since 2004. The afternoon session started with welcoming remarks by Dr. Sam Mannan and Dr. N.K. Anand, Assistant Dean and Interim Department Head. Each of the alumni then gave a brief talk about their experiences in the Center and their experiences since joining the workforce. After the assembly, the current students gave tours of the Center and labs in the Jack E. Brown Building. The 1st Annual Alumni Get-Together of the Mary Kay O’Connor Process Safety Center was rounded off with some outdoor activities and a catered dinner at the University Apartments Community Center. Dr. Sam Mannan said about the event, “It is such a great pleasure to welcome former students back into the Center. Our students’ success brings far more pleasure than our success. Also seeing the network and bonds developing between current and former students is very pleasing.” Dr. Anand in his comments noted, “The Mary Kay O’Connor Process Safety Center is one of the main cylinders that drives the department’s engine. The Safety Center’s research, education, and outreach activities bring national and international visibility and reputation to our department.”

The evening dinner at the University Apartments Community Center was also attended by Dr. Theresa Maldonado, Associate Vice Chancellor of Engineering. In her comments, Dr. Maldonado said, “The College is very supportive of the programs at the Center and plans are underway to elevate the Center to a Texas Engineering Experiment Station (TEES) Center such that the programs and activities of the Center can benefit other departments as well as other entities across the Engineering Program.”
The Space In Between

By Susan Mitchell

I have had the privilege of being a PhD student with the Safety Center for the past four years, but after vast amounts of learning and much hard work, I defended my dissertation on “Resilient Engineered Systems” at the end of February. The next stage of my life began this May when I started working for ExxonMobil Chemical.

Despite the two month gap between these events, I certainly kept busy! First, I finished the written dissertation and submitted it for publication through Texas A&M’s Thesis Office. I also had the opportunity to represent the Safety Center by presenting my research at two conferences: the AIChE Spring Meeting in Houston and the 1st International Conference on Self-Healing Materials in the Netherlands. The Spring Meeting was a wonderful opportunity to meet more safety colleagues while the Self-Healing Materials Conference was a unique opportunity to share how a variety of research disciplines can be used to inspire contemporary work.

I also took time for the practical (arranging my relocation to Houston) and the sentimental (saying good-bye to College Station). I visited favorite College Station locations for the last time, some locations for the first time, and said good-bye to many treasured friends, including my colleagues at the Safety Center. I was blessed with a potluck in the Center library, a fitting location considering the number of books and articles I read over the last number of years. The potluck also highlighted one of my favorite aspects of our group...the opportunity to learn about a variety of different cultures through delicious food!

Finally, I had a unique experience the world will get a glimpse of in June...I was selected to appear as a contestant on the TV show Jeopardy! I went to California after my defense to tape the show and it will air on Thursday June 7th. I can’t say how I did (you’ll have to tune in to see for yourself!), but I certainly hope I made the Mary Kay O’Connor Safety Center and Texas A&M Chemical Engineering proud.

Words certainly can’t describe the gratitude I feel at this point...these last four years have been the most formative and fulfilling of my life and everyone associated with the Center has played a part (no matter how small) in that process – thank you from the bottom of my heart. However, despite the fact that I am graduating, I know I will never leave the Safety Center family...I’ve just graduated to another level!
Updating OSHA Standards Based on National Consensus Standards; Personal Protective Equipment: Notice by OSHA of Proposed Rulemaking

OSHA has proposed revising the personal protective equipment (PPE) sections of its general industry, shipyard employment, longshoring, and marine terminals standards regarding the use of eye and face protective devices, head protection, and foot protection.

In the past, OSHA has updated its PPE standards according to updated American National Standards Institute (ANSI) standards. PPE manufacturers generally adopt the updated standards, but OSHA cannot propose and finalize its standards so often as can the consensus standards organizations, e.g., every 3-5 years. Therefore, a widespread problem has been obtaining PPE manufactured according to the particular ANSI standards specified by OSHA.

OSHA is proposing to replace the existing references to specific ANSI standards with performance language requiring PPE to be constructed in accordance with “good design standards.” The proposed revision includes guidance for identifying the good design standards. Acceptable PPE are those constructed with design standards that meet specified criteria that are consistent with the criteria for national consensus standards. In addition, OSHA is proposing to add non-mandatory appendices that list design standards that meet the requirement.

OSHA is also proposing to delete a paragraph in its ventilation standard that requires safety shoes to comply with a specific ANSI standard, and another paragraph in its welding, cutting, and brazing standard that requires filter lenses and plates in eye protective equipment to meet a test for transmission of radiant energy prescribed in another specific ANSI standard. In proposing to delete these paragraphs, OSHA intends for this safety equipment to comply with the applicable PPE design provisions in Subpart I of the general industry standards.

OSHA invites comments on this notice sent to http://www.regulations.gov.

^Federal Register / Vol. 72, No. 95 / Thursday, May 17, 2007 / Proposed Rules, pp. 27771–27782
Do you have a library donation?

The Center has established an extensive library containing many forms of literature on process safety and other related subjects. The library contains the most current reference materials available, and also, older material which in many cases is more valuable to our researchers because it is rare, or it helps explain the basis for a present practice that is not documented elsewhere. Results of experimental research are also archived.

The Center has received, by generous donation, the libraries of Drs. Stanley Grossel, Charles Holland, Dan Hanson, Harry H. West, William H. Bosler, Robert Smith, Rayford G. Anthony, Raymond Porter, and William H. DeKeyzer. With these contributions, and others, the Mary Kay O’Connor Process Safety Center Library is the preeminent collection of its kind. However, literary gifts are appreciated as the Center’s library continues to grow.

The Center’s Library accepts donations of reference materials related to Chemical Process Safety. Materials of all ages and type may be given. Results of experimental research are also very desirable. Please consider donating out of date industry standards from your corporate library. Symposium proceedings are especially useful since they typically have limited distribution.

Estate gifts may also be made and are welcome. This type of planned gift can be coordinated and arrangements made through the Texas Engineering Experiment Station (TEES) Development Office.

Please contact Mary Cass at 979-458-1863 or at mary-cass@tamu.edu to make arrangements for your donation. The Center reserves the rights to relocate material not suited for the library when appropriate. Please do not donate material with confidential or proprietary information without a release from a person legally authorized to do so.

Donations to the Center are tax deductible (to the extent allowed by law). The donor will be responsible for a 3rd party appraisal to determine the value. Receipts issued by the TEES Development Office would confirm receipt of donation and that TAMU is a charity, the amount would not be declared due to the amount is considered a non-cash gift.
2007
International Symposium
Mary Kay O'Connor Process Safety Center

BEYOND REGULATORY COMPLIANCE,
MAKING SAFETY SECOND NATURE

October 23-24, 2007

at The Brazos Center • College Station, Texas

The Symposium qualifies for 14 PDH (Professional Development Hours) required by Texas Board of Professional Engineers. A one hour (1 PDH) Ethics seminar is offered separately.
<table>
<thead>
<tr>
<th>Time</th>
<th>Tuesday, October 23, 2007</th>
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<tr>
<td>MORNING</td>
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<tr>
<td>8:00 - 9:30AM</td>
<td>(8-9 am) Frank P. Lees Memorial Lecture</td>
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| 9:30 am:     | State of the Center: Research Program, Current Activities, and Future Direction,  
|              | Dr. Sam Mannan, Director, Mary Kay O’Connor Process Safety Center |
| 10:00 - 12:00AM | Incident Surveillance and Safety Performance  
|               | "Data Leads the Way," T.M. O’Connor and M.S. Mannan, MKOPSC  
|               | "Texas HSEES Data Applications for Chemical Industry," J. Borders, Texas Department of Health  
|               | "ASM Approach to Incident Analysis," K. Harris, Honeywell |
| 10:00 - 12:00AM | Reactive Chemicals – I  
|               | "A Study on Decomposition of Dioxins with Calcium Oxide," M. Kumasaki, NIOSH, Japan  
|               | "Calorimetric Studies of the Effect of Rust on Species Reactivity," M. Levin, Shell Global Solutions  
|               | "Design, Control, and Testing of an Affordable Calorimeter for Screening Reactivity Hazard," J.P. Gupta, Indian Institute of Technology |
| 10:00 - 12:00AM | Abnormal Situation Management  
|               | "Integration of Data Rectification in Incipient Process Fault Diagnosis," B. Chen, J. Zhao, T. Qiu, and X. He, Tsinghua University, China  
|               | "Improving Plant Reliability and Safety through Operations Effectiveness Strategy," E. Habibi, PAS  
|               | "Continuous Improvement and Existing Safety Instrumented Systems," A. Summers, SIS-Tech Solutions  
|               | "Digital Condition Monitoring of Complex Chemical Reaction Systems in the Presence of Model Uncertainty," N. Kazantzis and N. Huynh, Worcester Polytechnic Institute, and R.A. Wright, The Dow Chemical Company |
| 1:00 - 3:00PM | Facility Siting  
|               | "A Systematic Method for Modeling Explosion Overpressures," T.A. Melton and J. Marx, Quest Consultants  
|               | "A Systematic Method for Modeling Explosion Overpressures," D. Ferguson, DuPont  
|               | "Risk-Based Versus Consequence-Based Approaches on Facility Siting Study," K. Kelly, Dyadem International  
|               | "Dow’s Portable Building Practices – An Update," P.N. Partridge, Dow Chemical Company |
| 1:00 - 3:00PM | Reactive Chemicals – II  
|               | "Corporate Reactive Hazard Management Program," H. Johnstone, Dow Chemical Company  
|               | "A Systematic Approach to Reactive Hazard Management," P. Lodal, Eastman Chemical Company |
| 1:00 - 3:00PM | Management for Process Safety – I  
|               | "Control of the MRO Materials Supply Chain... Preventing Materials Mix-ups that Might Lead to Process Safety Incidents," D. Ellis, M. Mason and B. Moniz, DuPont  
|               | "Managing Corrosion Challenges in Gas Processing Plants," M.A. Saleem, Saudi Aramco  
|               | "Safe Limits for Dispersion of Vapor and Liquid Releases From Atmospheric Safety Relief Devices," S.M. Mitchell, B. Banick, S. Ostrowski, and D. Kimbril, ExxonMobil Chemical Company |
| 3:30 - 5:00PM | Knowledge Management  
|               | "Don't Just Pass the Parcel: Accidents That Would Not Have Occurred if Those Involved Had Talked to Each Other," T.A. Kletz, Adjunct Professor, Department of Chemical Engineering, Texas A&M University  
|               | "Learning from the Past and Knowledge Management: Are We Making Progress," H.J. Pasman, TNO, Netherlands |
| 5-7PM        | Cocktail Reception        |
Mary Kay O'Connor Process Safety Center - 2007 International Symposium
The Brazos Center, College Station, TX

Wednesday, October 24, 2007

**Time**

<table>
<thead>
<tr>
<th>Morning</th>
<th>Keynote Session</th>
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<tr>
<td>8:00 - 9:30 AM</td>
<td>&quot;Learning from CSB Investigations&quot;, William Wark, U.S. Chemical Safety and Hazard Investigation Board</td>
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**Track I**

**Chairs:** Skip Early, Marc Levin

- **Human Factors**
  - "Case Studies in Human Factors: When Trust Goes Awry," K. Kas, Rohm and Haas Company
  - "Fuzzy Logic for Process Safety Analysis," A.S. Markowski, Technical University of Lodz, and M.S. Mannan, Mary Kay O'Connor Process Safety Center

**Track II**

**Chairs:** Kathy Shell, Mike Marshall

- **Management for Process Safety – II**
  - "Learning HAZOP Expert System by Case-based Reasoning," J. Zhao, Tsinghua University

**Track III**

**Chairs:** George King, Scott Ostrowski

- **Metrics, Metrics, and Metrics**

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**Afternoon**

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<th>Time</th>
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| 10:00 - 12:00 AM | **Track I**
|                | **Safety Culture**                                                                           |
|                | "Leading Indicators of Safety Climate," S.C. Payne, M.E. Bergman, J.B. Henning, C.J. Stufft, & J.M. Rodriguez, Department of Psychology, Texas A&M University |

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<th>Time</th>
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<td>2:45 - 4:45 PM</td>
<td><strong>Case Histories</strong></td>
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<td>&quot;Case Study: Polyethylene Wax Plant Explosion and Fire,&quot; L. Hasselbring, Stress Engineering</td>
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<td></td>
<td>&quot;Some Unusual Case Histories from Personal Experiences,&quot; J. Bradshaw, Texas A&amp;M University</td>
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<td>&quot;Rail Ruminations for Process Safety Improvement,&quot; K. van Scyoc, DNV</td>
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<td>&quot;Investigation of the Jahn Foundry and CTA Acoustics Dust Explosions: Similarities and Differences,&quot; T.J. Myers, Exponent</td>
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**4:45 - 5:45 PM**

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<th>Session</th>
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<tr>
<td>Special Session: Engineering Ethics - (Register Separately) Dr. Sam Mannan, Mary Kay O'Connor Process Safety Center</td>
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Mary Kay O’Connor Process Safety Center - 2007 SYMPOSIUM REGISTRATION
BEYOND REGULATORY COMPLIANCE, MAKING SAFETY SECOND NATURE
October 23-24, 2007

The Brazos Center • Texas A&M University • College Station, Texas

Please Print

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Company Name

Mailing Address

City State  Zip

Telephone        Fax       E-Mail Address

Additional Persons Registering:

2) __________________________________________________      4) ___________________________________________________

3) __________________________________________________      5) ___________________________________________________

Please indicate preferred track for session attendance:

Day 1 - First Session: Track I Track II Track III
    Second Session: Track I Track II Track III
    Third: General Session

Day 2 - First Session: Track I Track II Track III
    Second Session: Track I Track II Track III
    Third: General Session

REGISTRATION FEES:  {Fee includes refreshments, lunch, handouts and proceedings}

• Received by September 24, 2007- $495.00 per person  • After September 24, 2007 - $550.00 per person

* Partner, Sponsor, and Advisor membership level organizations receive 40%, 20%, and 10% discounts, respectively.

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- or -
Phone: (979) 845-3489
Fax: (979) 458-1493
E-mail: donnas@tamu.edu

Cancellation Policy: Cancellations must be received ten working days prior to the symposium to receive a full refund. After that time, there will be a 30% penalty. All refunds will incur a $25 service charge.

Accommodations:
Please indicate you are attending the Mary Kay O’Connor Process Safety Center Symposium when making reservations.

Rooms have been blocked at the following hotels.

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<tr>
<td>Hilton College Station</td>
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<td>Holiday Inn</td>
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<td>Fairfield Inn by Marriott</td>
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Travel:
You can travel to College Station by flying into the Easterwood Airport in College Station from the Houston Intercontinental or the Dallas/FortWorth Airport. Also, you can drive from Houston Inter-continental, which is about an hour and a half drive.

Parking: Complimentary parking is available at the Brazos Center during the Symposium.

For more information contact Donna Startz  •  E-mail: donnas@tamu.edu  •  Phone: (979) 845-5981  •  http://process-safety.tamu.edu
Mary Kay O'Connor Process Safety Center  
Engineering Ethics Session - Registration Form  
4:45-5:45PM, Wednesday, October 24, 2007

Fee: $45 (Separate from Symposium registration fee.)

Immediately following the Symposium, SPECIAL SESSION: "Engineering Ethics" will be presented by Dr. Sam Mannan.

This session qualifies for one PDH (professional development hour) in the area of professional ethics or roles and responsibilities of professional engineering, as required by the Texas Board of Professional Engineers, RULE §137.17 Continuing Education Program.

Registration for this session is separate from the Symposium registration.

The session will be held 4:45 - 5:45PM on Wednesday, October 24, 2007, at The Brazos Center. Registration fee is $45.

Fax or mail form.

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<td>Mailing Address</td>
<td></td>
<td></td>
</tr>
<tr>
<td>City</td>
<td>State</td>
<td>Zip</td>
</tr>
<tr>
<td>Telephone</td>
<td>Fax</td>
<td>E-Mail Address</td>
</tr>
</tbody>
</table>

Send $45 registration fee to:

- Payment by Check
  (payable to Mary Kay O'Connor Process Safety Center)

- Payment by Credit Card
  - MasterCard
  - Visa
  - American Express
  - Diners Club

CC# ________________________________  Exp. ____________
Total Enclosed $____________________

Send payment to:
Mary Kay O'Connor Process Safety Center  
Texas A&M University  
3122 TAMU  
244 Jack E. Brown Bldg.  
College Station, TX 77843-3122
-or-
Phone: (979) 845-3489  
Fax: (979) 458-1493
E-mail: donnas@tamu.edu

Cancellation Policy: Cancellations must be received ten working days prior to the symposium to receive a full refund. After that time, there will be a 30% penalty. All refunds will incur a $25 service charge.
Mary Kay O'Connor Process Safety Center

Invites you to EXHIBIT at the

2007 Symposium
Making Safety Second Nature

$1250 includes:

- one Symposium registration
- listing in meeting programs (in print and on-line)
- 10'X10' booth space
- electrical hookup
- table/chairs

October 23-24, 2007
Brazos Center
College Station, Texas

For more information or to register, contact Donna Startz at phone: 979-845-5981 -or- email: donnas@tamu.edu

http://process-safety.tamu.edu
### Continuing Education • 2007 Schedule
Mary Kay O’Connor Process Safety Center

<table>
<thead>
<tr>
<th>Month</th>
<th>Course Details</th>
</tr>
</thead>
</table>
| August      | **Engineering Design Systems**  
Grossel/Frey  
Location: SIS-TECH  
$495/$550 |
| September   | **Management of Change**  
Steven Emerson  
Location: SIS-TECH  
$295/$350 |
|             | **Process Hazard Analysis Leadership Training**  
William (Skip) Early  
Location: SIS-TECH  
$495/$550 |
|             | **Fundamentals of Process Safety Management**  
Adrian Sepeda  
Location: TCE-Conf Rm  
$495/$550 |
| October     | **Layer of Protection Analysis**  
Angela E. Summers  
Location: SIS-TECH  
$495/$550 |
|             | **Safety Instrumented Systems Implementation**  
Angela E. Summers  
Location: SIS-TECH  
$695/$750 |
| December    | **Implementing or Optimizing Your SHE Management System**  
Jack McVaugh  
Location: SIS-TECH  
$695/$750 |

Registration Fees: Early Registration (4 weeks prior)

Contact: 979-458-1863 • 979-458-0422 (fax) • mary-cass@tamu.edu

Check for future classes at:

[http://psc.che.tamu.edu/education](http://psc.che.tamu.edu/education)

Other Course Offerings
Available by Request and On-Site
Mary Kay O’Connor Process Safety Center
Continuing Education Registration Form

Last Name                  First Name                  MI

Company Name

Mailing Address

City                      State       Zip

Telephone

Fax

E-Mail Address*

COURSE TITLE                  COURSE DATE    FEE

1) If the course is cancelled for any reason, we will provide a 100% refund or the student can transfer their registration fee to the next offering of the same course, or to a different course.

2) If the student cannot attend the course, they may have a substitute attend. Cancellations must be received ten working days prior to the start of the course to receive a refund. After that time, there will be a 30% penalty. All refunds will incur a $25 service charge. The Center will not be responsible for any costs and/or expenses incurred by the registrant when a class is cancelled.

*Email addresses received via this registration form will be added to our email distribution list unless otherwise noted.

Registration and Fees:

To register online go to: http://www.texasonline.state.tx.us/NASApp/tamu/ODEManager
and select courses offered by the Texas Engineering Experiment Station and then you will be linked to the site listing all our courses. Follow the instructions and be sure to wait for a confirmation that your registration was received before exiting the site.

Early registration is 4 weeks prior to course date. See individual classes for fee, (based on course duration).

Circle one: MC     Visa     AmEx

Total $__________________

CC#_________________________ Exp. _____

Card Holder______________________________

Please send registration form and check (made payable to the Mary Kay O’Connor Process Safety Center) or fax registration if paying by credit card (American Express, Diners Club, MasterCard, or Visa) to:

Mary Kay O’Connor Process Safety Center
Attention: Mary Cass
Texas A&M University
College Station, TX 77843-3122
Phone: 979/458-1863    Fax: 979/458-0422

Mary Kay O’Connor Process Safety Center
Continuing Education Registration Form

Centerline, Vol. 11, No. 1 18  Spring 2007
Contact:
Donna Startz
Mary Kay O’Connor Process Safety Center
Texas A&M University
3122 TAMU
College Station, TX 77843-3122

Phone: 979/845-3489
Fax: 979/458-1493

http://process-safety.tamu.edu

CALENDAR

October 23-24, 2007
2007 SYMPOSIUM
The Brazos Center, College Station, TX

Information about Center Membership can be found at:
http://process-safety.tamu.edu/membership/