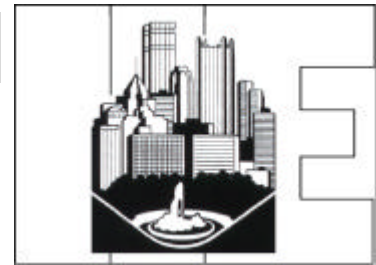


# The Pittsburgh Sampler

A Newsletter Publication of the Pittsburgh Chapter of the  
*Institute of Industrial Engineers*

NOVEMBER 2001



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## IIE NOVEMBER MEETING

- What:** Six-Sigma Quality --  
Presentation by Karen Rhyder and Dave Ash of  
US Airways
- When:** Thursday, November 15, 2001
- Where:** Dave and Buster's at The Waterfront --  
Homestead, PA
- Time:** Registration 5:45 PM  
Program begins at 6:00 PM
- Dinner:** Buffet at Dave and Buster's -- Included in program  
fee
- Cost:** IIE Members \$30 (includes dinner buffet)  
Non-Members \$35 (includes dinner buffet)
- RSVP:** **By Monday, November 12<sup>th</sup>**  
Contact Joe Kikta at 412.236.6193,  
or email (preferred) kikta.js@mellon.com.

**REMEMBER: YOUR RESERVATION  
IS YOUR COMMITMENT !!!**

## PRESIDENT'S MESSAGE

Our 2001 Student Night meeting was a great success! I would personally like to thank Bryan Norman, Joe Kikta, our panelists, and everyone else who helped to make the event a success. It was very interesting hearing the panelists discuss their different perspectives of the consulting profession and the roles industrial engineers fill within them. It was exciting to have so many undergraduate students join us for the evening. Several of them told me they really enjoyed networking with senior chapter members and want to attend more of our meetings in the future. I also had the pleasure to talk with several non-active members who expressed interest in becoming more involved in the Pittsburgh Chapter. It was a great evening.

This month also marks our first November officer election! The ballot will be e-mailed to the membership within the next week. Please review the nomination committee's choices for our officer and board positions. When you receive the ballot, I ask that you please show your support of the Chapter by completing the ballot.

For our November meeting, I am very excited that the Programs Committee is able to offer us an educational session on the topic of Six Sigma. It seems that every time I open a trade journal or business publication, I see some reference to it. Six Sigma has been credited as being one of the key elements to General Electric's and several other well known companies' enormous success over the past decade. I am very interested in learning how it differs from other productivity improvement approaches and why so many companies are adopting it. It is also a pleasure to have two of our chapter's members, Karen Rhyder and Dave Ash, agree to share their expertise with us. It has always been part of my vision for the Pittsburgh Chapter to have members do a better job of sharing knowledge, and this should be a unique opportunity to do so. I encourage everyone to attend and consider inviting a friend or colleague to this program. It could be a great opportunity to expose them to the benefits we receive from our professional association. I hope to see you there!

Doug Rabeneck  
Pittsburgh IIE Chapter President  
(412) 921-2400 x146



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## NOVEMBER 2001 PROGRAM

November's program will be an interesting presentation/discussion on Six-Sigma Quality by Karen Rhyder and Dave Ash of US Airways. The meeting will be held at one of Pittsburgh's most exciting new venues, Dave and Buster's in Homestead.

### Six Sigma Quality

To achieve Six Sigma quality, a process must produce no more than 3.4 defects per million opportunities. An "opportunity" is defined as a chance for nonconformance, or not meeting the required specifications. This means we need to be nearly flawless in executing our key processes. Six Sigma is a vision we strive toward and a philosophy that is part of our business culture.



### The Key Concepts of Six Sigma

At its core, Six Sigma revolves around a few key concepts. Critical to Quality: Attributes most important to the customer

**Defect:** Failing to deliver what the customer wants

**Process Capability:** What your process can deliver

**Variation:** What the customer sees and feels

**Stable Operations:** Ensuring consistent, predictable processes to improve what the customer sees and feels

**Design for Six Sigma:** Designing to meet customer needs and process capability

### Customers Feel the Variance, Not the Mean

Often, our inside-out view of the business is based on average or mean-based measures of our recent past. Customers don't judge us on averages, they feel the variance in each transaction, each product we ship. Six Sigma focuses first on reducing process variation and then on improving the process capability.

Customers value consistent, predictable business processes that deliver world-class levels of quality. This is what Six Sigma strives to produce.

### About the Presenters

**Karen Rhyder - Manager of Maintenance Process Engineering, US Airways**

- BS in Mechanical Engineering, Lehigh University
- MBA from Boston University
- Aircraft Maintenance Officer, US Marine Corps: 1992 - 1997

- Practicing and teaching Six-Sigma Black Belt, General Electric: 1997-1999
- Captain, US Marine Corps Reserves

**Dave Ash - Lead Process Engineer, US Airways**

- BS Professional Aeronautics, Embry Riddle Aeronautical University, Magna Cum Laude
- Shin Gi Jutsu, Kaizen in Nagoya, Japan
- GE, Six Sigma Black Belt
- Avitek International, Aircraft Airframe and Powerplant mechanic
- Harrier aircraft mechanic, US Marine Corps: 1990-1995
- Technician/Process Engineer/Six-Sigma Black Belt, GE Aircraft Engine Services: 1995-1998

### Directions to Dave and Buster's

180 East Waterfront Drive  
(412) 462-1500

#### **From East (Monroeville)**

Take Hwy 376 West through the Squirrel Hill Tunnels. Exit Squirrel Hill & follow the Homestead signs onto Beechwood Boulevard, which will turn into Browns Hill Road. Continue over the Homestead High Level Bridge and turn right on Fifth Avenue in to the Waterfront area. Staying to the right, follow the bend around to Dave & Buster's.



Hill

#### **From West/Airport**

Take Highway 60 South to Highway 279 North through the Fort Pitt Bridge. Take Hwy 376 East. Exit Squirrel Hill & follow the Homestead signs onto Beechwood Boulevard, which will turn into Browns Hill Road. Continue over the Homestead High Level Bridge and turn right on Fifth Avenue in to the Waterfront area. Staying to the right, follow the bend around to Dave & Buster's.

#### **From North**

Take Highway 279 South to veteran's Bridge exit. Stay left, following the signs to Monroeville/Highway 376 East. Exit Squirrel Hill & follow the Homestead signs onto Beechwood Boulevard, which will turn into Browns Hill Road. Continue over the Homestead High Level Bridge and turn right on Fifth Avenue in to the Waterfront area. Staying to the right, follow the bend around to Dave & Buster's.

## RECAP OF LAST MONTH'S MEETING

The joint meeting between the student IIE chapter at the University of Pittsburgh and the senior chapter was a great success! We had 81 people attend the meeting. Members from both chapters had a good opportunity to get to know each other better. The four panelists who discussed consulting - Colleen Frank of McKinsey, Pat Kelly Lee of the Executive Toolkit, John Lopus of Accenture, and Ken Smith of H. B. Maynard - represented a broad spectrum of different consulting environments. They addressed several important issues and shared their experiences on a range of different topics. The audience enjoyed interacting with the panel and feedback from those attending indicated that the panel did a great job! Thanks to everyone who participated and a special thanks to those members that sponsored students and to our corporate sponsors: Fed-Ex Ground, H. B. Maynard, PPG, The Executive Toolkit, and the University of Pittsburgh IIE Department.

## MEMBERSHIP STATUS REPORT

The membership total for the Pittsburgh Chapter is at 184 members.

If you know other industrial engineers or people working in an industrial engineering capacity, encourage them to come to one of our upcoming meetings and join IIE. Membership forms are available at IIE's home page <http://www.iienet.org> or you can contact Angela Konop at (412) 859-2678.

Note: If your contact information changes (i.e. address, company, phone number, email address), please contact IIE National. Their phone number is (770) 449-0460 or 1-800-494-0460. Once you contact IIE National, your address change should be reflected on our next mailing list, which is received from IIE National each month.

## JOB BANK

The purpose of the job bank is to match qualified IIE professionals with available jobs. In the past several years, we have been successful in placing IIE members with employers.

If you or your company are looking for new employees, send a description of the position you wish to fill to the address below. We will publish your position in our monthly newsletter. Please try to limit your descriptions to 50 words or less and include a phone number, address, fax number, and e-mail so interested parties can contact you directly.

## TREASURER'S REPORT

PAGE 2 OF 4			
INSTITUTE OF INDUSTRIAL ENGINEERS CHAPTER IRS REPORT			
4/1/01 - 3/31/02		CHAPTER NO. 3 REGION: 5	
<b>CHAPTER NAME:</b>		PITTSBURGH	
<b>FEDERAL EMPLOYER I.D. NUMBER:</b>		25-606281	
	INCOME	EXPENSES	
1. DUES INCOME	\$ 843.00	XXX	
2. INTEREST INCOME	-	XXX	
3. CONTRIBUTIONS RECEIVED (A)	-	XXX	
4. CONFERENCES (B)	-	-	
5. MONTHLY MEETINGS	1,452.00	573.95	
6. NEWSLETTERS (B)	-	-	
7. MISCELLANEOUS (B)(C)	-	-	
8. CONTRIBUTIONS AND GRANTS PAID	XXX	100.00	
9. PUBLICATIONS/NEWSLETTERS	XXX	624.07	
10. PROGRAMS/MEETINGS	XXX	52.98	
11. STUDENT DEVELOPMENT (E)	XXX	-	
12. COMMUNITY SERVICES	XXX	-	
13. MEMBER SERVICES	XXX	-	
14. OFFICERS & CHAPTER MEETINGS	XXX	50.65	
15. CHAPTER OPERATIONS SUPPLIES	XXX	24.00	
16. MISCELLANEOUS (C)	XXX	-	
17. TOTAL	\$ 2,295.00	\$ 1,425.65	
<b>ENTER: 18. NET WORTH 4/01/01</b>		<b>\$ 4,722.82</b>	
ADD 4/01/01-3/31/02 INCOME		\$ 2,295.00	
SUBTOTAL	\$ 7,017.82		
LESS 4/01/01-3/31/02 EXPENSES		\$ (1,425.65)	
NET WORTH 3/31/02		<b>\$ 5,592.17</b>	
19. STATEMENT OF NET WORTH			
<b>ENTER: PETTY CASH ACCT. BALANCE</b>	\$ -		
<b>ENTER: CHECKING ACCT. BALANCE</b>	\$ 2,943.76		
<b>ENTER: SAVINGS ACCT. BALANCE</b>	\$ 2,641.28		
TOTAL *	<b>\$ 5,585.04</b>		
* THIS TOTAL SHOULD EQUAL NET WORTH AT 3/31 SHOWN ABOVE.			
PREPARER OF FINANCIAL INFORMATION SHEET:			
NAME:	PHONE:		
Mark Coffey	(724) 449-6035		
ADDRESS:			
519 Edgehill Drive Gibsonia, PA 15044			

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## COMMUNITY AFFAIRS

### NATIONAL ENGINEERS WEEKEND

Friday, February 22 & Saturday, February 23, 2002  
Carnegie Science Center

Event tables, including presentations, demonstrations and activities designed to interest and inspire young people are being planned as part of Pittsburgh's National Engineers Week celebration. Presenting an event table is a fun and effective way for your organization to help us communicate to our youth that math, science and engineering can be enjoyable and challenging.

The Pittsburgh Chapter is once again registered to support National Engineers Week. At this point, we are looking for volunteers to staff the booth and ideas for the exhibit. If you volunteered last year, you can expect a call! If you have ideas on an exhibit that would demonstrate what IEs do and would be of interest to middle school students, please pass them on! Replies can be directed to John Connors at [jconnors@hbmaynard.com](mailto:jconnors@hbmaynard.com) or 412-921-2400, ext. 149.

## MEMBERSHIP DEVELOPMENT OPPORTUNITIES

### IE SPEAKER WANTED

The Director of the Gifted Student program at Woodland Hills High School is looking for a volunteer to make a 35-40 minutes presentation to her class. The purpose of the presentation is to explain what Industrial Engineers do, with the hope of sparking some interest in IE as a career. The students are in grades 10-12. We are hoping to find someone who lives in the Churchill area and has an interest in this particular school, but others with an interest are also welcome. If you are interested, please contact Jo Smerdel at 412-244-1100 #5149.

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### ESWP Soliciting Nominees for Annual Awards

It's time again for the annual recognition awards presented by the Engineers' Society of Western Pennsylvania. ESWP is pleased to issue the 2001 Call for Nominations for the Engineer of the Year and the Project of the Year Awards. These awards are presented annually by the ESWP to recognize significant achievements in engineering. You may learn more about these awards, plus download a nomination form at ESWP's home page, located at [www.eswp.com](http://www.eswp.com). Nominations will be open through January 4 2002.

Additionally, ESWP is accepting nominations for the William Metcalf Award, the lifetime achievement award for significant contributions to engineering in fields normally associated with Western Pennsylvania. The Metcalf Award is the highest award presented by the Engineers' Society and is named after the founding president of ESWP, William Metcalf. This award has

been presented annually since 1963. Past recipients include such notables as Thomas Usher, USX Corporation, Richard Simmons, Allegheny Teledyne, Dr. Joel Abrahms, University of Pittsburgh and Harold Hall, Hall Engineers. Nominations for the Metcalf Award will be accepted through November 20, 2001, and can be directed to the attention of Carl Schwartz. His e-mail address is [schwarcw@westinghouse.com](mailto:schwarcw@westinghouse.com). These award winners will be recognized at the 118th annual banquet of the ESWP, on Wednesday February 20, 2002, at the Pittsburgh Hilton and Towers.

ESWP recognizes that the engineering professionals, firms and technical societies affiliated with the ESWP are a vital part of the engineering community in Western Pennsylvania. As such, your input is valued in preparing nominations for these prestigious awards. ESWP hopes that you will give thought to this opportunity to recognize individuals and firms who are most deserving.

Should you have any questions, please do not hesitate to contact ESWP or Nancy Hirko at 412-826-3636 or [nhirko@air-comp.com](mailto:nhirko@air-comp.com).

## NEXT MONTH'S MEETING

### Project Management - Thursday December 13, 2001

Presentation: The Strategic Context of Projects - By Dave Cleland, Ph.D, professor emeritus, University of Pittsburgh

This will be a joint meeting with the Project Management Institute, and will be held at the Engineer's Society of Western Pennsylvania, Fourth Ave., Downtown.

In Dr. Cleland's presentation, the theory and practice of project management will be portrayed in the context of product, service, and organizational process change in modern organizations. The presentation will suggest a basic philosophy and approach for the management of projects as key leading "choice elements" of change in modern organizations.

The subject matter of the presentation should have wide appeal for many project management "stakeholders," engaged in some way in the utilization of strategic management initiatives in their respective organizations.

The presentation will also describe how alternative project teams such as found in benchmarking, competitive analysis, concurrent engineering, reengineering and self-managed production environments are used in the context of preparing the enterprise for its future.

To reserve your spot for this meeting, contact Joe Kikta at [kikta.js@mellon.com](mailto:kikta.js@mellon.com), or 412-236-6193.



**Jeff Peretin**

**Vice President and CAR Coordinator**

The ultimate reason for measurement is to evaluate and improve a product or process. The intent of the CAR is to provide a simple measurement system for chapters to see improvement trends and to track their progress. It is also the basis for awards in the Chapter Recognition Program, providing visibility so that chapters' accomplishments can be recognized and rewarded.

In our ongoing commitment to communicate to members how the National IIE organization evaluates the effectiveness of our chapter, this month's article will describe the requirements for CAR Section 4: Student Outreach and Community Affairs.

**4. Student Outreach Activities and Community Affairs**

**4.1 Community Affairs Participation**

One responsibility of any professional organization is to educate the public about the contributions of its members. Community service projects can be an excellent way to inform the public about the vital skills possessed by Industrial Engineers. Promoting the profession in this way helps educate and support our communities.

**Information Required**

In this category, your chapter may claim one point, up to a maximum of 5 points, for any of the activities listed under this question that your chapter used to try to retain and recruit members. Mark any of the categories that apply with an "X" on the CAR.

If you had activities not included in this list that you believe apply, you may include points for these activities (1 pt per activity) in the field labeled "Other". You should identify what these activities are in your email submission or with an accompanying document (also must be in electronic format).

**Score**

Score = Min( Count of "X"'s + Number of "Other" Points Claimed , 5 )

**4.2 Student Outreach Activities**

The future of IIE and the industrial engineering profession can be found in today's students. IIE should work towards educating high school students about industrial engineering and supporting university students pursuing studies in industrial engineering.

Briefly review the activities that your chapter undertook to work with local schools (middle, junior/senior high, colleges & universities) to inform them about the profession. Also include activities that involved university chapters in your area.

Please note that this section has been designed so that every chapter, regardless of proximity to an active university chapter, has the opportunity to earn the maximum of 15 points.

**4.2.a University Region Conference Support**

In this category, your chapter may claim one point, up to a maximum of 5 points, for any of the activities listed under this question that your chapter conducted in support of the University Region Conference. Mark any of the categories that apply with an "X" on the CAR. Note that some of the categories are mutually exclusive.

If you had supporting activities not included in this list that you believe apply, you may include points for these activities (1 pt per activity) in the field labeled "Other". You should identify what these activities are in your email submission or with an accompanying document (also must be in electronic format).

**Score**

Score = Min( Count of "X"'s + Number of "Other" Points Claimed , 5 )

**4.2.b Other Student Activities**

In this category, your chapter may claim one point, up to a maximum of 5 points, for any of the activities listed under this question that your chapter conducted in support of student or outreach activities. Mark any of the categories that apply with an "X" on the CAR.

If you had supporting activities not included in this list that you believe apply, you may include points for these activities (1 pt per activity) in the field labeled "Other". You should identify what these activities are in your email submission or with an accompanying document (also must be in electronic format).

**Score**

Score = Min( Count of "X"'s + Number of "Other" Points Claimed , 5 )

**4.2.c Scholarships Support to Students**

With the rising costs of education, financial support for industrial engineering students benefits the profession. Your chapter can claim points, up to a maximum of 5 points in this category, for offering a financial scholarship with total value of:

Points	Scholarship(s) Total Value
1	\$100 ≤ Total Value < \$200
2	\$200 ≤ Total Value < \$300
3	\$300 ≤ Total Value < \$400
4	\$400 ≤ Total Value < \$500
5	\$500 ≤ Total Value

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## NEWS FROM IIE



IIE's web page has industry- or discipline-specific communities that are organized to help members network and benchmark with others doing work similar to their own, or explore areas of industrial engineering outside those used every day. If you are an IIE member, you can identify and contact members of the various groups using their online Member Directory. Members can also participate in topic-specific discussions in their online discussion forum. There's no better networking tool!

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### Networking Communities (Free with IIE membership.)

These groups include periodic online newsletters and an online discussion forum –

- Aerospace & Defense
- Energy, Environment & Plant Engineering
- Engineering Economy
- Facilities Planning & Design
- Financial Services
- Logistics Transportation & Distribution
- Manufacturing
- Operations Research
- Quality Control & Reliability Engineering
- Utilities

These groups include an online discussion forum --

- Computer & Information Systems
- Consultants
- Electronics Industry
- Engineering Design
- Government
- Process Industries
- Production & Inventory Control
- Retail

If you are already an IIE member and would like to add one or more Networking Community memberships, you may use the Member Profile Form online, or contact Member and Customer Support at 800-494-0460.

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### Creating Lean Success with Cellular Manufacturing

*Course Dates:* Dec. 12, 2001      *Tuition:* IIE Member \$495,  
*Location:* IIE Headquarters in Atlanta, Georgia      *Non-Member \$595*  
*Details:* 1 day/.75 CEUs  
*Instructor:* Dr. Shahrukh A. Irani

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Cellular Manufacturing (CM) is a timetested strategy for factory layout design and material flow organization to reduce work-in-process inventory, shorten order throughput times and improve quality levels in any suitable manufacturing facility. CM seeks to reallocate the existing manufacturing equipment and support services on the shop floor into several independent groups of machines. Each group of machines in the cell are dedicated to the production of a family of parts. The foundation for being a competitive manufacturer is having a facility layout that is designed for flow. Learn how to optimize a layout to achieve maximum flow and productivity. Develop a practical, computer-oriented strategy for implementing cellular manufacturing that is especially suited for high-variety, low-volume (HVLV) manufacturing facilities. This seminar concentrates on Production Flow Analysis (PFA), a method that is best applied in the design of cellular layouts in HVLV facilities. Learn how to design flexible cells capable of processing large part families and complement their implementation with only the relevant subset of Lean Manufacturing support systems.

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### Experiment Design Made Easy

*Course Dates:* Dec. 4-6, 2001      *Tuition:* IIE Member \$1395, Non-  
*Location:* IIE Headquarters in Atlanta, Georgia      *Member \$1495*  
*Details:* 3 days/2.25  
*Instructor:* Shari L. Kraber, P.E.,  
C.Q.E.

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In three days, you'll master the practical aspects of designed experiments – from selecting the appropriate design through the experimental process and statistical analysis of data. Learn efficient methods for identifying focus factors, and discover previously unknown interactions that often prove to be the key to success. Learn how to use powerful statistical methods that give you confidence in your findings.

Design of experiments (DOE) is a critical engineering tool for improving the performance of a manufacturing process. It also has extensive application in the development of new processes and products. DOE results in improved quality, improved processes and reduced overall costs.

Institute of Industrial Engineers  
25 Technology Park | Norcross, GA 30092  
800-494-0460 | 770-449-0460 |  
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INSTITUTE OF  
INDUSTRIAL ENGINEERS

Pittsburgh Chapter  
Area I, District 5  
Number 3



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Eight Parkway Center  
Suite 400  
Pittsburgh, PA 15220

**2000 - 2001 SCHEDULE OF EVENTS**

January .....Chapter Leadership Meeting  
February 13 .....5-S Workplace Improvement Overview  
March 8 .....PNC Park Tour  
April 17 .....Tour of Industrial Scientific  
May 9.....Tour of Mellon Financial Corp. Ops. Ctr.  
June 19..... Baseball Outing: Pirates vs. Phillies - PNC Park  
September 19 ..... Heinz Field Tour  
October 16..... IIE Student Night Event  
November 15 ..... Six Sigma Quality - Presented by US Airways  
December 13 ..... The Strategic Context of Projects –  
.....Presented by D. Cleland, Ph.D.  
.....(Joint meeting with the Project Management Institute)

