

**Institute of Industrial
Engineers
Chapter 47
NEWSLETTER
Detroit, Michigan**

Mission:
*The Mission of the Detroit Chapter
is to promote the advancement of
Industrial Engineering by providing
professional development
information and resources to our
customers.*

Volume 44, No. 4 September and August, 2000

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Past President

Irv Otis
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**Tuesday, September 26th
Supply Chain Management**

- Can your company compete in today's market?
- What I.E. methods and techniques are utilized?

Joint Student and Senior Chapter Meeting
at The University of Michigan-Dearborn,
4901 Evergreen Road, Dearborn, Mi 48128



Where: U of M Dearborn, PEC Building (Professional Education Center) Room 1430
When: Tuesday, September 26th, 6 PM to 9 PM
Speaker: Charu Chandra, Assistant Professor, Industrial & Mfg Systems Engineering
Cost: **Complimentary pizza and pop sounds great!**
RSVP: by **September 21st**, to our IIE VOICEMAIL (313) 438-0205.

**Wednesday, October 18th
Factory Flow**

See the Factory Flow software demonstrated.

**See how GM North American Vehicle Operations
utilize current and future plant layout scenerios.**

Where: Westland Library, 6123 Central City Parkway, Westland, Mi
When: Wednesday, October 18th, 6 PM to 7:30 PM
Speaker: Keith Martin, Manager Indirect Labor, GM
Cost: We will be going to dinner after the demonstration at a nearby restaurant
for those who would care to join.
RSVP: by **October 16th**, to our IIE VOICEMAIL (313) 438-0205.



Engineering Animation, Inc

VisFactory

FactoryFLOW

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Chapter President's Message

by Dean Pyers

The Institute is moving into the next phase of "IIE 2000 – Reinvention and Renewal of the Institute", and I would like to spend some time describing this plan to you. Chapters are currently being asked to review and revise their geographic borders, and over the next few months some of you will be receiving more information about this project.



Currently, every IIE member is assigned to a local chapter, regardless of the distance to an active chapter. A fair number of chapters in the nation are currently inactive, and there are some areas of the country where a member could be many miles from the geographic chapter center. Imagine an IIE member taking a new job in Traverse City – the only organized chapters in this state are Detroit, Saginaw Valley (Flint), Western Michigan (Grand Rapids) and Southwestern Michigan (Kalamazoo). It would be very difficult for that member to realize a benefit from being assigned to a local chapter.

So, IIE intends to create an At Large chapter utilizing the internet. All chapters are being asked to review their membership records and select zip codes that should naturally be assigned to their chapter, while keeping the following goals and guidelines in mind:

- Design a reasonable service area that facilitates personal interaction among the members and chapter management
- Limit the commuting time to attend meetings to 1 hour or less
- Avoid unrealistic expectations on the part of members who find that local chapters are too far away from their home

Members living outside these natural boundaries will be offered the option of joining the At Large chapter and receiving expanded services and programs through the Internet. Joining this At Large chapter will be voluntary – members can remain in any

chapter they want, as you can now. But, those living outside the immediate Southeast Michigan area will be receiving a letter from IIE in March, 2001, announcing this program and offering membership in the At Large internet chapter along with the option of remaining in the local chapter.

I'm sure we will all be reading more about these changes and the services offered via the Internet in "Solutions" magazine in the upcoming months. Please contact me if you have any questions or suggestions at dpyers@tir.com or (810) 575-0683.

*** Call for Nominations ***

- Do you enjoy networking with peers in your profession?
- Would you like to help provide exciting local programs?

Volunteering just a few hours during the course of the year will help our Chapter provide more services and even better programs to our membership.

We welcome you and your colleagues to apply for positions available in the Chapter in 2001. Please may contact any Officer or President Dean Pyers at dpyers@tir.com.

Up Coming Meetings

November - Plant tour

December - Holiday Party and Inauguration

Meeting Notice Tuesday, September 26th Systems Thinking in Supply Chain Mgt



Meeting Notice Thursday, August 10th The Harbour Report - North America 2000



teaches courses in Information Technology and Operations Research.

Come and join us for complimentary pizza/pop.

This will be a joint meeting between the university student chapter IIE and our senior member Detroit chapter IIE. We will be meeting in the U of M Dearborn, PEC Building (Professional Education Center), Room 1430, at 6 PM.

Supply Chain Management

To compete successfully in today's market place, companies need to manage effectively and efficiently the activities of design, manufacturing, distribution, service and recycling of their products and services to their customers. Supply chain management deals with the management of materials, information and financial flows in a network consisting of suppliers, manufacturers, distributors, and customers. The coordination and integration of these flows within and across companies are critical in effective supply chain management.

It is important that the information, material and financial flows are coordinated effectively in a supply chain. In the last few years, the coordination and integration of these flows have attracted significant interest on the part of researchers, management, consultants and practitioners in academia and industry.

In this talk, we present a systems framework that utilizes an inter-disciplinary approach to supply chain management with methods and techniques incorporated from production operations management, management science, industrial engineering / operations research, systems sciences, and artificial intelligence and computer science fields.

Speaker Biographical Information

Charu Chandra is an Assistant Professor in Industrial & Manufacturing Systems Engineering at The University of Michigan, Dearborn, Michigan, since September, 1998. Prior to this, he was a Post Doctoral Fellow at Los Alamos National Laboratory, Los Alamos, New Mexico, and at The University of Minnesota, Minneapolis, Minnesota. He is involved in research in Supply Chain Management and Electronic Commerce topics and

The Harbour Report, which was first published in 1989, measures assembly, stamping and powertrain productivity performances - plant by plant - for automakers in North America. The report also contains a financial chapter that examines each automakers' labor cost and profitability results.

Foreign-owned manufacturers Nissan, Honda and Toyota continued to have the most productive overall automotive manufacturing operations in North America in 1999, according to The Harbour Report North America 2000, the annual study released by Harbour and Associates, Inc.

Nissan led all 10 companies in the report in overall assembly labor productivity, just ahead of Honda. Honda finished No. 1 in stamping hours per vehicle (HPV), slightly ahead of Toyota. And among powertrain operations, Toyota was first in the overall hours per engine measure.

Meanwhile, Ford Motor Company's Atlanta plant finished as the No. 1 plant in assembly productivity, and Ford Twin Cities was tops among truck assembly plants. Atlanta's ascension to the top spot was the first time in the history of The Harbour Report that a U.S.-owned manufacturer's plant led the assembly rankings.

"While Ford's overall operations had what might be called a flat year in Harbour measures, it's certainly quite an achievement for Ford Atlanta to lead all assembly operations in labor productivity," said Ron Harbour, president of Harbour and Associates. "And Twin Cities

also deserves recognition for leading the truck segment."

General Motors made the most progress of any company in the 2000 report as years of standardizing and implementing common systems finally hit home.

"Maybe GM's poor reputation has been its ally over the last few years," Harbour said. "Because its manufacturing prowess was generally discounted, GM has had the opportunity to work without scrutiny. What has been happening is quiet progress on all fronts, to the point that GM has transformed many of its facilities and processes into some of the best in North America."

Let's welcome Ron Harbour of Harbour and Associates!

Chapter Activity Report

We received a nice card from Jackie DeLuca:

"Senior IIE Chapter,



Thank you very much for choosing me as the recipient of the Irv Otis Award. The event at the Dearborn Inn was extremely enjoyable and I was honored to be there. I hope that I can bring to the Institute of Industrial Engineers what it has given me, opportunities, personal growth, and friendships. Once again, Thank You!"

Three IE's were honored during National Engineers' Week in February at the ESD Affiliate Council Gold Award Banquet. IE students **Heidi Savin** (UM - Ann Arbor) and **Jacqueline DeLuca** (UM - Dearborn) were the recipients of the Irv Otis Award (\$500). **Richard Anderson** was proudly presented with our Distinguished Service Award.

Pictured from left to right, Jackie DeLuca, Richard Anderson and Heidi Savin. All were recipients of awards during National Engineer's Week at the ESD Affiliate Council Gold Award Banquet.

September/August, 2000
Chapter 4 /

All three Award recipients have a lot in common. Besides being active and holding offices in their own respective IIE chapters, they also spend time with other volunteer organizations and activities:

- Richard Anderson also serves as Chair of the UM-Dearborn Engineering & Computer Science Alumni Society and co-chairs the Dearborn CROP Hunger Walk.

- Jacqueline DeLuca served as the student representative on the Executive Committee of the College of Engineering and Computer Science and assisted the school department in its recruiting efforts, including fund raising and recruiting trips to area high schools with college faculty.

- Heidi Savin has been active with Alpha Pi Mu (the IOE honor society), Tau Beta Pi (the national engineering honor society) and Epians (an honorary engineering leadership society). She also volunteered at Teach Out!, Kid's Fair and Mott's Hospital, and mentored elementary students in Science.

After receiving the Irv Otis Awards, the students' were asked of their future plans after graduation. Heidi was planning to continue her education in Graduate School, focusing on Operations Research. Jackie desired to go directly into the job market in the systems engineering field. Best of luck to both of them!

Membership Activities

Congratulations to **Siddharth Chandramouli** from the University of Michigan Ann Arbor, who was awarded a Gilbreth Memorial Fellowship for the 2000-2001 academic year.

Detroit Chapter members spotted at the annual IIE Conference, Solutions 2000, held in Cleveland May 21-24:

Julie Irwin, Tej Jhamb, Bernice Jung, Dean Pyers, Jim Rains, and Steve Sullivan. Will we see you at Solutions 2001 in Dallas?

In the February Solutions Magazine:

- The "Quest for Best Practices" article written by **Michelle Moore Rodier**. Michelle works for Kelley Services here in Michigan.

- UM Ann Arbor **Professor Stephen Pollock** has been appointed to the Herrick Professorship of Manufacturing.

- The quotes from Detroit Chapter members **Joe Jankford** and **Jean Ann Larson** in the article "What

Your Boss Really Wants".

In the April Solutions Magazine:

- UM students **Meredith Chan** and **Miguel Garrido** were honored with the Martin Luther King Spirit Award.

- **Vikas Jain** is one of the 15-members inaugurated to the IIE Solutions Editorial Advisory Board.

In the May Solutions Magazine:

- Ford ergonomics specialist **Allison Stephens** was pictured at the Applied Ergonomics Conference.

April's Pontiac Metal Fab Tour

by Bob Fitzgerald

The tour was very interesting. The hydroforming process was very simple. Pontiac receives metal tubes and turns them into assemblies such as Corvette frame rails, Chevrolet Malibu Engine Cradles, Radiator Supports, Cadillac Roof Rails, etc.

An example of the process: The received Corvette Frame Rail tubes (20+ Ft. Long Straight Cylinders) are delivered to the input end of the automated process. A robot picks up the cylinder, pushes it against a pre-bending die. This first station is where the tube begins to take shape. After the pre-bending, the robot then positions the pre-bent tube into the hydroform press. The ends of the tube are sealed, and a 5% oil 95% water solution is forced into the tube at up to 5000 PSI.

The function of the high water pressure is not to bend, but to keep the metal from deforming during the press



cycle. After the water/oil is under 5000 PSI pressure, the upper portion of the press comes down and encapsulates

Past Meeting Highlights from August 10th The Harbour



the part - sort of like the part being contained in a mold. The press then forms the part, and very important - it pierces holes (as design requires). The holes must be all pierced at about the same time - since when the holes are pierced - the water pressure is reduced. The design of the press is such that most of the water is contained during the process. Occasionally they do have a major "spray". The next step after the press cycles, is robotic unloading, and transferring into a laser end cutting machine. After the ends are cut, the part is then loaded into a shipping container.

We were not allowed to take pictures in the Hydroforming area. However we were allowed to take a group photo of the 17 people after the Pontiac Metal Fab tour.

Ron Harbour took the attentive crowd through the productivity and financial performances of the North American automotive business. Some of the questions after the presentation proved to be just as enlightening:

Ron Harbour was asked why Japanese transplants have better productivity than Ford, GM or Daimler-Chrysler. The basic answer was effective distance the operator travels from getting the part to assembling the part (lean manufacturing).

The more the parts come in kits,
The better the layout for parts presentation,
The less distance to get the parts,
The less travel time for the operator,
The fresher the operator is,
The more time the operator has to assemble,
The more parts per there are per workstation,
The less floor space required,
The fewer operators required.

What will the future hold? Ron summarized that 46% of the cars have a foreign nameplate while only 20% of the trucks have a foreign nameplate. The transplants can make good profits from car sales where the big three make most of their profit from trucks. There is a potential for enormous profit for the transplants as they start manufacturing trucks, SUV's, minivans, etc.



TX

Mrs. Tara J. Wills

FROM: 906 Kettering Univ

TRANSFERS OUT OF THIS CHAPTER

Dr. John R. Birge

TO: 025 Chicago IL

Ms. Kristen Burnett

TO: 003 Pittsburgh PA

Mr. John C. Hawley

TO: 037 Peninsula CA

Ms. Julienne M. Menendez

TO: 100 Delaware

Membership Report

2/05/2000- 6/02/2000

Detroit, MI CHAPTER 047

NEW MEMBERS

Mr. Sung H. Moon
Mr. Robert E. Weeks
Mr. John H. Bradford
Mr. Bradley C. Burchnell
Mr. Gavin W. Douglas
Mr. Joseph C. Hagan
Mr. Behzad Karim
Mr. Arnold C. Love
Mr. James C. Rucker
Mr. Victor D. Lloyd
Dr. Sara Merchawi

TRANSFERS INTO THIS CHAPTER

Mr. David S. Kim FROM: 068 Worcester MA
Dr. Bijay K. Nayak FROM: 191 Essex-Kent Canada
Dr. Jonathan Owen FROM: 819 Northwestern Univ
IL
Ms. Allison E. Vanderspool FROM: 092 Kansas City
MO
Mr. Taimour El-Cheikh FROM: 902 Univ of
Louisville
Ms. Melissa J. Gospodarek FROM: 906 Kettering Univ
Mr. Jeffry Handoko FROM: 855 Ohio State
Univ
Mr. Mark A. Kieber FROM: 061 Metropolitan NJ
Mr. Thomas Kozina FROM: 044 Rochester NY
Ms. Warangkhan Sriwarom FROM: 872 Lamar Univ

Region 6 Student Conference

The Region 6 Student Conference was hosted by the University of Toledo on April 6 to 8th, with 90 students from Michigan, Ohio, Kentucky and West Virginia in attendance. Featured speaker at Friday night's dinner was Mr. William Marohn, a UT alumnus who became President, Chief Operating Officer and Vice Chairman of Whirlpool Corporation in Benton Harbor. Mr. Marohn spoke to the assembled students about the importance of setting goals and following through on them, and his belief that your performance during the first year at a new company may be the most important factor in determining your potential.

The First Place Technical Paper Award went to Ryan Kamerad of Western Michigan for "Study of Inpatient Surgical Processes at a Southwest Michigan Hospital". Western also won Second Place for Jason Hart's "The Design of an Assembly Method and Workstation for the 24-way CAM Lock". The award for the School that Traveled the Farthest went to Louisville, while West Virginia won the prize for School with the Most Attendees.

Your Detroit Chapter supported this event with a donation of \$150. Photographs from the conference are posted at: <http://www.eng.utoledo.edu/~iie/>

News From IIE Headquarters

IIE NAMES PURDUE PROFESSOR PRESIDENT-ELECT

According to IIE Immediate Past President Rich Hansen, "It is with deep regret that the IIE Board of Trustees accepts the resignation of John Birge, dean of the school of engineering at Northwestern University, as IIE president-elect because of pressing family matters."

Birge was appointed to the position following the untimely death of Eric Malstrom just three weeks after Malstrom was named president-elect during IIE's general elections earlier this year. The IIE nomination committee selected Purdue University professor Marlin Thomas as candidate for the position of president-elect on May 24; their decision was approved by the Board of Trustees. Thomas was chosen unanimously by both the nomination committee and the board, according to Hansen.

"I'm very honored to serve the IE profession," said Thomas. "We're all saddened by the circumstances under which I'm assuming the position, but I'm looking forward to continuing with the transition to make the Institute a more customer-serving society for the profession."

Career Development

Company: Bank One

Position: Process Measurement Analyst

Position Description: Responsible for analysis, design and development of work flow simulation models in order to recommend cost effective strategies for use of technology to improve Bank One processing goals and meet customer expectations. Responsible for facilitating and leading teams in the evaluation and improvement of current business processes. Creates projects plans, engages the team, identifies "best practice", defines changes in policies, procedures, organizational design and the application of technology and documents and communicates progress of the initiatives.

Requirements: Bachelors degree. Minimum 2-5 years simulation and modeling experience and Business Process Re-Engineering experience with analysis design/redesign, development, integration and implementation of business process/systems. In-depth understanding of workflow simulation tools, specifically Meta software. Excellent oral communication skills and critical thinking ability.

Salary Range: \$50-70K Commensurate with experience

If you would like to pursue this opportunity please contact: Aaron McClendon @ CRCG INC., 1-800-501-2724 Ext. 222 or amcclendon@crcginc.com

com

A major manufacturer of tools, hardware and fasteners for over 150 years is seeking an Industrial Engineer for

its regional distribution center in Concord, NC. Areas of responsibility will include methods review and process improvement, facility layout, productivity and standards evaluation and safety. AutoCAD knowledge is a plus. Excellent opportunity for new grads or IE's with 1+ years experience. Please send resume and salary requirements to the following:

Michelle Wilder, CEO Inc,
301 S. McDowell St. Ste 1003
Charlotte, NC 28204
704-372-4701, 704-372-4707 fax
mwilder@ceo-inc-usa.com

If any Chapter member would like to post a job opening or situation wanted, please contact :

Greg Andrysiak at (248) 442-8607, greg.andrysiak@trw.com, or Ron Brzuch at rbrzuch@mediaone.net

ADVERTISEMENT

IIE Detroit Chapter 47 Members Can Save Money With This Membership Benefit

Citizens Insurance Company, headquartered in Howell, Michigan, is providing special group discounts for auto and homeowners insurance to IIE members through a special affiliation with ESD The Engineering Society of Detroit. Since the inception of this member benefit program in 1971, over 18,000 policies have been written, which clearly shows the success of the program!

Here is a summary of some of the special discounts that are available:

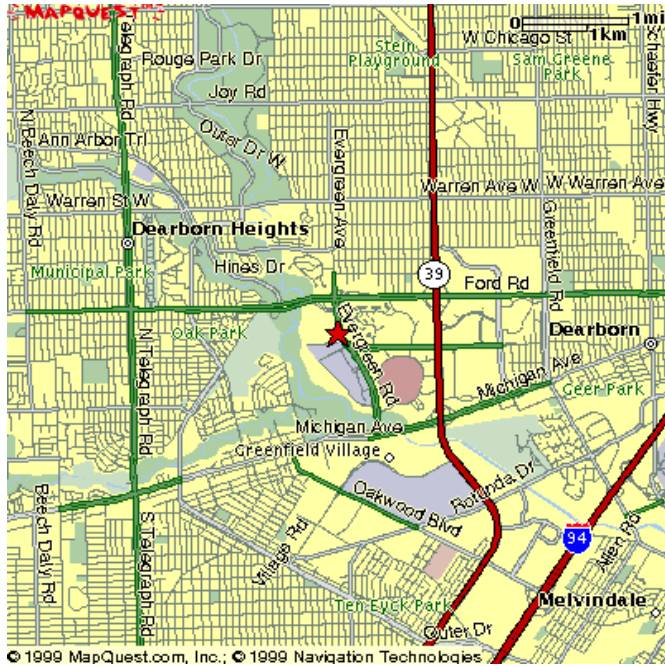
IIE Group Discounts Auto discount**10%**
Homeowner's Discount**20%**

Multi-Policy Discount ..take an additional **10%** discount off **both** policies

New Home Discount ... save up to **30%**!

If certain qualifications are metas much as an additional **25%** may be available!

Tuesday, September 26th Supply Chain Management



**The University of Michigan-Dearborn,
4901 Evergreen Road, Dearborn, Mi 48128
PEC Building (Professional Education Center)
Room 1430**

Wednesday, October 18th Factory Flow



**Westland Library,
6123 Central City Parkway, Westland, Mi 48185
Exit #25 (Ford Road) from I-275**

Institute of Industrial Engineers #47
c/o Ron Brzuch
7247 Almaden Court
Canton, MI 48187

DATED MATERIAL