

# Engineering Economy Solutions

## IIE's Engineering Economy Division Newsletter

### Director's message

This is the first Newsletter of 2004, and I would like to wish every one a Very Happy New Year!

The 2004 IIE Annual Conference and Exhibition will be held in Houston, Texas on May 15<sup>th</sup>-19<sup>th</sup>. This year's conference promises practical solutions and real-world applications to everyday challenges faced by IE professionals. The Industrial Engineering and Research Conference (IERC) will provide access to innovative research that not only advances existing theory but also provides opportunities to develop new theories and highlight challenges in bridging theory and practice. The conference is also an ideal setting for networking with peers. The IERC is one of the most tangible benefits that we receive as members, and I hope that many of you will benefit from it by attending this year's events. For the benefit of our readership, in the next newsletter, we hope to list the papers that will be presented at the IERC Engineering Economy Sessions.

At the IERC we will be holding our Annual EED Business Meeting on Tuesday afternoon (May 18, 2:45-4:15pm) and I encourage all of you to participate. We will also be presenting the Wellington Award at the meeting, electing new members for the Leadership, and discussing future directions and opportunities for our division. Again, I encourage you to come to the IIE 2004 Conference and look forward to seeing you in Houston in May.

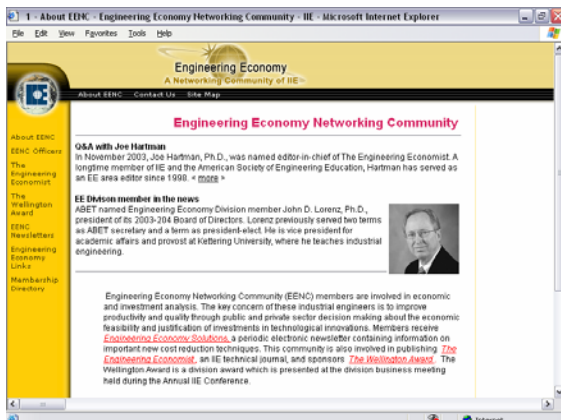
#### **Hemantha Herath**

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Director

### Spring 2004

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### Important Web sites

Engineering Economy Division Homepage:  
<http://engecon.iienet.org>

The Engineering Economist Homepage:  
<http://www.tandf.co.uk/journals/titles/0013791x.asp>

IIE Homepage: <http://www.iienet.org>

IIE Societies & Divisions:  
<http://www.iienet.org/networking>

## 2003 Wellington Award Winner: Dr. Wolter J. Fabrycky

Dr. Wolter J. Fabrycky is currently the chairman of Academic Applications International. He received the Ph.D in Engineering in 1962 from Oklahoma State University, the M.S. in Industrial Engineering in 1958 from the University of Arkansas, and the B.S. in Industrial Engineering in 1957 from Wichita State University. Dr. Fabrycky taught at Arkansas and Oklahoma State and then joined Virginia Tech in 1965 where he served as Chairman of Systems Engineering, Associate Dean of Engineering, and then as Dean of Research for the University. He is now the Lawrence Professor Emeritus of Industrial and Systems Engineering at Virginia Tech and a Distinguished Professor of Systems Engineering.

At Portland State University. In 1990, he received the Hotzman Distinguished Educator Award from the Institute Engineers. Fabrycky was elected to the Arkansas Academy of Industrial Engineering in 1989.

Dr. Fabrycky was elected to the rank of Fellow in the Institute of Industrial Engineers in 1978, the rank of Fellow in American Association for the Advancement of Science in 1980, and the rank of Fellow in the International Council on Systems Engineering in 1999. He is listed in Who's Who in Engineering and Who's Who in America. Fabrycky is a Registered Professional Engineer in Arkansas and Virginia.

Six Prentice Hall books were co-authored by Fabrycky. There are: Economic Decision Analysis (1998), Systems Engineering Analysis (1998), Engineering Economy (1993), Life-Cycle Cost and Economic Analysis (1991), Procurement and Inventory Systems Analysis (1987), and Applied Operations Research and Management Science (1984). Dr. Fabrycky also co-edits the Prentice Hall International Series in Industrial and Systems Engineering that now contains more than 50 titles.

## IIE Annual Conference 2004

May 15-19, 2004  
Houston, Texas

It's time to start getting ready for the *IIE Annual Conference 2004*. As in the past years, we hope that the Engineering Economy Division (EED)'s participation continues to grow.

Currently, the EED has two Engineering Economy sessions planned:

- "Advancements in Engineering Economy"
- "Engineering Valuation"

To register for the conference, please visit [www.iienet.org/annual](http://www.iienet.org/annual)

**Early Registration Deadline:  
April 2, 2004**

### Editor's message

Through this newsletter we are trying to inform the Engineering Economy Division (EED) members of the IIE Annual conference (May 15-19) in Houston. Please attend the conference and the EED Business Meeting as well on Tuesday afternoon. Further, we want to make this newsletter as interesting and resourceful as possible and would welcome any contributions and suggestions. I would like to thank the EED members, leadership, and Heather Bradley for their support.

Look forward to seeing you at IERC.

M. Affan Badar  
mbadar@indstate.edu  
Newsletter Editor

### EED Web Page

The EED web page can be viewed at <http://engecon.iienet.org/>. Femi Omitaomu has been designing and maintaining the web site for over two years. If you have any suggestions concerning the site or any information that you want to post on the site, please e-mail to the Webmaster at [omitaomu@utk.edu](mailto:omitaomu@utk.edu). If you have any comments or contributions for the newsletter, please e-mail to the newsletter at [mbadar@indstate.edu](mailto:mbadar@indstate.edu).

### IIE Member Bulletin

Are you getting the free IIE Member Bulletin e-mailed to you? If not, send e-mail to [cs@iienet.org](mailto:cs@iienet.org) and include your name and member number to subscribe.

## Q&A WITH JOE HARTMAN, EDITOR OF THE ENGINEERING ECONOMIST



*Joe Hartman, Ph.D., hopes to take The Engineering Economist in exciting new directions.*

In November 2003, Joe Hartman, Ph.D., was named editor-in-chief of The Engineering Economist. A longtime member of IIE and the American Society of Engineering Education, Hartman has served as an EE area editor since 1998.

Hartman is an associate professor of industrial and systems engineering at Lehigh University, serving as the George N. Kledaras Chair. He earned his Ph.D. in industrial and systems engineering from the Georgia Institute of Technology in 1996. He also holds an M.S. in industrial engineering from Georgia Tech and a B.S. in general engineering from the University of Illinois at Urbana-Champaign.

Appropriately, Hartman's research is in the area of engineering economics, focusing on applications in equipment replacement. His work is funded by a number of companies and the National Science Foundation. In 2000, he was presented with the Eugene L. Grant award for the best paper published by The Engineering Economist. He received IIE's Outstanding Young IE Award in 2002.

### **Q: What attracted you to this position?**

A: I have been interested in the position of editor-in-chief of The Engineering Economist since I can remember. I wrote my dissertation at Georgia Tech under the guidance of Jack Lohmann while he was editor of the journal. Jerry Thuesen, another former editor, was on my dissertation committee. In essence, I have been around the journal for as long as I have been aware of engineering economics. I was fortunate that Chan Park, the previous editor, asked me to be an area editor in 1998.

### **Q: What sets EE apart from other publications?**

A: It is unique for a number of reasons. First, it is an interdisciplinary journal. While many of the authors and readers are industrial engineers, we get contributions from all areas of engineering, including chemical, civil, and mechanical. Additionally, contributions come from outside engineering, including business schools. Second, it is a journal with both a research and an educational mission. The journal is a joint publication of IIE and ASEE. This tradition is unique in that it promotes the publication of articles on both research and teaching. Third, the area of capital investment – the journal's slogan is "A journal devoted to the problems of capital investment" – is one that is shared by engineering economists and those in business. However, this journal is unique in that it caters to being a soundboard for engineers, although we get contributions from other fields as well.

### **Q: What are your plans for EE?**

A: I have a lot of ideas for the journal and I am eager to sit down with the Editorial Board and determine our best course of action. Chan Park worked tremendously hard to bring more people to the journal, especially through the special issues, which were unprecedented in the journal's history. I hope to continue this tradition of having more focused issues on timely research topics. There will be some drastic changes to the journal in the near future that the readership may not notice. One major change is the move to Taylor and Francis being our publisher. This will allow the editor to focus on journal content and not layout. Other major changes will be in the manuscript handling process. These changes will include online submissions and the electronic handling of manuscripts. This process should decrease the time that an article spends in review and decrease the cost of producing the journal. This will also lead to more possibilities, such as online publications and an online searchable database.

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# Engineering Economy Leadership Biographies

## Director

### **Hemantha Herath, Ph.D.**

Hemantha Herath is an assistant professor of Managerial Accounting in the Faculty of Business, Brock University. Previously, he was an assistant professor at University of Northern British Columbia and a consultant in the Oil and Gas Division of the World Bank. He is a recipient of a Fulbright Scholarship. Dr. Herath has published articles in academic journals including, *Managerial Finance*, *The Engineering Economist*, *Corporate Finance Review* and discussion papers at the World Bank. He is a recipient of the Eugene L. Grant Award for the best paper in *The Engineering Economist* (Volumes 45). Dr. Herath's research interests are in real options, performance measures and corporate governance. He received his MS and Ph.D. from Auburn University and is an Associate Member of the Chartered Institute of Management Accountants, UK.

## Program Chair

### **Heather Nachtmann, Ph.D.**

Heather Nachtmann is an Assistant Professor of Industrial Engineering at the University of Arkansas. She received her Ph.D. in Industrial Engineering from the University of Pittsburgh.

Her research interests include economic decision analysis, intermodal transportation, and decision-making under uncertainty. She is a member of AACE International, ASEE, ASEM, IIE, INFORMS, and SWE.

## Newsletter Editor

### **M. Affan Badar, Ph.D.**

M. Affan Badar is an assistant professor of Industrial and Mechanical Technology at the Indiana State University. He teaches Engineering Economy there. He received his Ph.D. in Industrial Engineering from the University of Oklahoma. He was included in Who's Who Among Students in American Universities & Colleges in 2002. His research interests include manufacturing and uncertainty analysis. He has published articles in international proceedings and journals including J. of Manufacturing Science & Engineering, Int. J. of Quality & Reliability Management, and Energy-The Int. Journal. He is a reviewer for the J. of Manufacturing Science & Engineering. He is a member of IIE, ASME, and SME.

## Wellington Award Chair

### **Thomas O. Boucher**

Dr. Thomas O. Boucher is a Professor in the Department of Industrial & Systems

Engineering at Rutgers University. He received a BS in Electrical Engineering from the University of Rhode Island, an MBA in finance from Northwestern University, and MS and Ph.D. degrees in Industrial Engineering from Columbia University and has previously taught at Cornell University.

His teaching and research interests include engineering economics, manufacturing automation, computer integrated manufacturing, and production planning and control. He is the Author of Computer Automation in Manufacturing, (Chapman-Hall, 1996) and co-author of Analysis and Control of Production Systems, 2nd Ed., (Prentice-Hall, 1994). His research has been funded by the National Science Foundation, the Defense Logistics Agency, and industry. Dr. Boucher is an editorial board member of the Journal of Engineering Valuation and Cost Analysis. He has previously served as a department editor for IIE Transactions and an area editor for The Engineering Economist. He was awarded the Wellington Award in 2002 for his contributions to the field of Engineering Economics and was previously a four-time recipient of the Eugene L. Grant best paper award. He is a senior member of IIE, SME, and IEEE, and a member of the New York Academy of Sciences and Sigma Xi.

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## Engineering Economy Leadership Roster

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## Firms that fail to change will suffer

-- Global and supply-chain networks must be altered --

The advent of increased globalization and greater communication efficiency has provided the impetus for companies to develop and expand their global facilities and supply chain networks. Firms that fail to construct efficient global facility networks will suffer a significant competitive disadvantage.

Global networks can be structured by a combination of product families, the production processes, and the markets served. In "A Mathematical Programming Model for Global Plant Location Problems: Analysis and Insights," Panos Kouvelis, Meir J. Rosenblatt, and Charles L. Munson present a mixed integer programming model to help managers design their global facility networks.

Some of the major insights noted that:

- Differential tax rates favor more centralized manufacturing and distribution network structures, with the low-tax countries attracting not only plants and distribution center investments but also serving a larger portion of the worldwide demand via their distribution centers.

- When transportation of subassemblies is expensive, firms prefer centralized manufacturing and distribution structures.
- Formation of trading zones in certain environments tends to have a regionalization effect on the facility network (i.e., the facility network becomes decentralized over trading zones but centralized within each zone).
- Even a small subsidy of facility financing by a country's government is in most cases adequate to attract facility investments in the country.

This study can be found in full in the February issue of IIE Transactions. Subscriptions to the monthly, refereed journal are \$67.50 a year for IIE members and \$234.00 a year for non-members.

*To subscribe, members can call (800) 494-0460 or contact IIE Customer Service at [cs@iienet.org](mailto:cs@iienet.org).*

*Non-members should contact Taylor & Francis publishers at (800) 354-1420, (215) 625-8900, or [www.taylorandfrancis.com](http://www.taylorandfrancis.com).*

## A bit about ABET

### *A chance for ABET program evaluators to upgrade their usefulness*

Each year, IIE trains volunteer members to serve as program evaluators for the Accrediting Board for Engineering and Technology. In cooperation with IIE, ABET offers academic programs in industrial engineering, systems engineering, general engineering, engineering management, industrial engineering technology, and industrial management.

This year, IIE members serving on the ABET Board and Accreditation Commissions have been working on an updated training program that combines the engineering, engineering technology, and industrial management training programs. This will enable program evaluators to serve on any accreditation team. By cross training program evaluators, IIE hopes to have a broader pool of qualified evaluators from which to draw. In addition, the new training program incorporates all of the recent changes in the accreditation process.

The new training program will be rolled out at the IIE Annual Conference in Houston on May 17 at the Hilton Americas Hotel in Room 335C from 8 a.m. to 4:30 p.m. All current program evaluators are strongly encouraged to participate in the event. It is not open to individuals who have not completed previous program evaluator training.

For information about ABET program evaluation, contact Jay Goldman, IIE director of ABET affairs, at [jgoldman@uab.edu](mailto:jgoldman@uab.edu) or (205) 934-0027. To register for the ABET meeting at the Annual Conference, contact Bisi Oyeyemi at [boyeyemi@iienet.org](mailto:boyeyemi@iienet.org) or (770) 349-1122.

### EE Division member in the news

ABET named Engineering Economy Division member John D. Lorenz, Ph.D., president of its 2003-204 Board of Directors. Lorenz previously served two terms as ABET secretary and a term as president-elect. He is vice president for academic affairs and provost at Kettering University, where he teaches industrial engineering.

