March 2009 Newsletter

CPMS BEGINS STRATEGIC SELF-ASSESSMENT

By Donald R. (Bob) Smith, Chair, CPMS
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Beginning this spring, officers of CPMS along with other volunteers from the CPMS council (and possibly volunteers from CPMS at large), will be working with colleagues from INFORMS marketing (including Anne Robinson, VP Marketing and Outreach, and Gary Bennett, Director, Marketing) to perform a strategic self-assessment that might lead to a new mission statement, new marketing strategy, new sets of activities, and/or a new name for this subdivision. Of course, any changes suggested through our self-assessment would need to satisfy the normal approval process before implementation.

It's been a long time since CPMS significantly assessed itself to produce a significant change in any of those arenas. Probably our major self-identity is as the umbrella applications organization within INFORMS. Most of us feel a strong tie with our historic role of initiating and running the Edelman prize competition. And we feel enthusiastic about other current activities including administration of the Wagner Prize, organization of practice clusters at meetings, and presentation of the Isolated Practitioner workshops. CPMS activities continue to make a strong difference to practitioners and to INFORMS. We have seen the Edelman competition become a central practice event for INFORMS and the keystone of the spring practice conference.

But I think it is also fair to say that most of us think we could be doing a whole lot more. Truly active members of CPMS are a small handful of the practitioner community. Many practitioners know little about us, and have no identification with us. Moreover our name CPMS, which stands for "college on the practice of management science," is an anachronism. Most people don't know where the term "college" comes from (it is terminology used by TIMS but not used within INFORMS). And we are aware that INFORMS has tended to use "operations research" as a brand name for the overall profession, rather than management science, because operations research is better established world-wide.
We look forward with excitement to the results of this self-assessment. If you would like to participate with us please contact me!

**SHOULD I ATTEND THIS APRIL'S PRACTICE CONFERENCE?**

**By R. John Milne, INFORMS Vice President, Practice Activities**  
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84% of INFORMS members who identify themselves as practitioners have never been to the [April practice meeting](https://ui.constantcontact.com/visualeditor/visual_editor_preview.jsp?age...). Yet those 16% of us who have attended at least one of the practice meetings find it so valuable and enjoyable that we return to the meeting year after year. Those practitioners who have not yet attended tend to cite two reasons: cost and topics covered. I'll address each of these in turn.

At over $800 for registration, the practice meeting costs more than many professional-society conferences. Here's why. The practice conference speakers are selected -- through a competitive process -- and given a discounted registration fee. This leads to higher costs for regular attendees but results in higher-quality talks. A bigger influence on registration cost is that practice-meeting attendees are fed delicious sit-down breakfasts, lunches, and dinner. These meals are a convenient opportunity for networking with like-minded OR practitioners. Although the registration cost may appear high, those of us who have been blessed by attending the practice meeting feel that the high-quality talks and networking opportunities are well worth the registration cost. And the net cost is mitigated by the low out-of-pocket meal expenses we incur since we are fed so well by the hosts of the practice meetings.

As for the meeting topics, it is easy to (wrongly) conclude from a list of presentation titles/abstracts that the topics are not relevant for an operations research professional who specializes in a particular problem domain or solution method. Yet those of us who have been to the practice conference see common themes and ideas in best-practices operations research that spans problem domains and technologies. We all encounter challenges with clients, vaguely defined expectations, seemingly intractable problems, unreliable data, resistance to change, budget/timeline pressures, changing information technologies, organizational politics, etc. Learning how leading OR practitioners have overcome such obstacles is both insightful and inspiring.
For those of you who have not yet attended a practice meeting, I heartily encourage you to give it a try. You'll appreciate the value and are likely to become a repeat attendee. See the link to this April's practice conference on the INFORMS home page (www.informs.org).

THE EDELMAN AWARDS GALA ... A WONDERFUL EVENT!

By Jeffrey M. Alden, Chair, Edelman Gala Committee
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Would you like to learn about and help recognize OR practice that produced substantial real-world benefits? Enjoy a delightful dinner with your colleagues in a gala setting? If so, then consider attending the 2009 Edelman Awards Gala on Monday evening, April 27, as part of the INFORMS practice conference in Phoenix, AZ. Bob Bixby will be serving as our accomplished and entertaining master of ceremonies!

This year six finalists will compete in the Franz Edelman Award competition during the practice conference. This is the touted "Super Bowl" OR competition that recognizes OR with major real-world benefits. Since the competition started in 1972, there have been over 700 finalists from 200 finalist teams representing over 100 different application areas (business, government, other organizations) with a cumulative impact of over 160 billion $US!! This excludes significant non-momentary benefits in safety, security, cooperation, health, etc. This year's finalist client organizations are: CSX railway, HP, IBM, Marriott International, Norske-Skog, and Zara. Their actual competition presentations may be attended by any registrant at the practice conference.

Following the competition is the Edelman Awards Gala that offers a formal dinner along with ceremonious recognition of high-impact OR practice. We highlight Edelman finalist teams, Edelman Laureates (authors of finalist papers that appear in Interfaces), Edelman Academy Organizations (finalist client and supporting organizations), the INFORMS Award for effective integration of OR into organizational decision making (presented by chair Ranganath Nuggehalli), and for the first time the Daniel H. Wagner Prize for Excellence in Operations Research Practice given by CPMS (presented by chair Allen Butler). Also recognized are the associated judges, coaches, and various committees.
The gala is capped when the INFORMS president, Don Kleinmuntz, announces the 2009 Franz Edelman first-place winner. A full reprise of the Edelman-Award-winning presentation occurs Tuesday morning -- expect polished, exemplary testimony describing great O.R work and impact!

Here is a special note to any Edelman Laureate yet to receive your medal. If you will be attending the Phoenix practice conference, we urge you to take part in the Edelman reception prior to the Gala, to claim your medal and be recognized as an Edelman Laureate. Please contact Gary Bennett (gary.bennett@informs.org) regarding your participation.

EDELMAN FINALISTS WILL COMPETE IN PHOENIX

By Srinivas Bollapragada, Chair, 2009 Edelman Competition
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Six finalists will compete for the prestigious Edelman Award on April 27, 2009 at the INFORMS practice conference in Phoenix, AZ. The finalists were selected from a very strong field of around two dozen entries that spanned diverse areas of operations research including supply chain management, math programming, revenue management, scheduling, transportation, and portfolio management. The finalist teams representing CSX Transportation, HP, IBM, Marriott International, Norske-Skog, and Zara have increased the combined net income of their organizations by a few billion dollars. For more information about the teams and their work, refer to the INFORMS press release at the url:
http://www.informs.org/article.php?id=1544

A committee consisting of more than 30 members from major universities and companies selected the finalists after a thorough verification process. Information about the committee and the selection process is available at the website:
http://www.informs.org/index.php?c=401&kat=Franz+Edelman+Award

Practitioners who want to hear polished presentations from those responsible describing examples of highly successful OR are invited to join us at the Phoenix INFORMS practice conference.

2009 INFORMS-PRIZE WINNER TO BE ANNOUNCED IN PHOENIX
By Ranganath Nuggehalli, Chair, 2009 INFORMS Prize Committee
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The winner of the 2009 INFORMS Prize will be announced in Phoenix on April 27, 2009. The prize will be awarded to the winning organization during the Edelman Awards Gala, held in conjunction with the annual INFORMS Conference on OR Practice.

Awarded annually, the INFORMS Prize is given to an organization that has demonstrated effective and sustained integration of operations research into organizational decision-making. The evaluation criteria emphasize the frequency, novelty, criticality, and longevity of OR applications. On April 28, representatives from the winning company will discuss the state of the OR discipline in their organization.

Previous winners of this prestigious award include General Electric Global Research Center, Schneider National, Air Products and Chemicals, Procter & Gamble, UPS, New York City Office of Management and Budget, and other leading organizations.

Serving on this year's selection committee are Jeffrey Camm of the University of Cincinnati, Mark Ferguson of Georgia Tech, Ted Gifford of Schneider National, Erica Klampfl of Ford Motor, Thomas Olavson of HP, Karen Smilowitz of Northwestern University, and Glenn Wegryn of Proctor and Gamble. I am serving as chair.

2008 WAGNER PRIZE AWARDED

By C. Allen Butler, Chair, Wagner Prize allen.butler@va.wagner.com

Sponsored by CPMS, the Daniel H. Wagner Prize for Excellence in Operations Research Practice offers a first-place award of $1,000, made possible by endowments from Metron, Inc., Daniel H. Wagner Associates, Inc., and Applied Mathematics, Inc.

The prize has been named in memory of the late Dr. Daniel H. Wagner. While president of his own practice-oriented consulting firm, Dan Wagner brought many high-quality mathematicians into the operations-research community, leading to significant applications for the U.S. Navy, U.S. Coast Guard, and many other
organizations. The prize honors him by emphasizing qualities he especially respected in his colleagues: the ability to innovate and to write clearly.

The 2008 competition, held at the INFORMS annual meeting, was the eighth since the inaugural event in 1998. The first place winners were John J. Neale, Boston University School of Management, and Sean P. Willems, Boston University and Optiant. Their paper was titled *Managing Inventory in Supply Chains with Non-Stationary Demand*.

Many companies experience non-stationary demand due to product lifecycle effects, seasonality, customer buying patterns, or other factors. The model describes how inventory levels should adapt to changes in demand at a single stage. Then by propagating non-stationary demand through the supply chain, the authors are able to link stages and apply a multi-echelon optimization algorithm originally designed for stationary demand. Two successful applications of this model are a strategic project to evaluate the benefits of an inventory pool at Case New Holland (CNH) and a tactical implementation to support monthly safety stock planning at Microsoft.

The winning authors will reprise their presentation at the INFORMS Conference on OR Practice in April 2009, in Phoenix, Arizona. They will receive their award during the Edelman Gala during that same meeting. Congratulations are also in order for the other six finalists:

Matthew P. Manary and Alison F. Shihata, Intel Corporation, and Sean P. Willems, Boston University and Optiant: *Correcting Heterogeneous and Biased Forecast Error at Intel for Supply Chain Optimization*.

Eva Lee, Chien-Hung Chen and Hannah Smalley, Georgia Institute of Technology: *Modeling and Optimizing the Public Health Infrastructure for Emergency Response*.


Michael Fry, University of Cincinnati, and Jeffrey Ohlmann, University of Iowa: *Route Designs for Delivery of Optical-Scan Voting Machines*.

Sila Cetinkaya and Halit Uster, Texas A&M University, Gopalakrishnan Easwaran, St. Mary's University, and Burcu
Keskin, the University of Alabama:


The 2009 Wagner Prize has issued a Call for Abstracts closing on May 1, 2009. The selection criteria focus on mathematical innovation and clarity of exposition, in contrast to the Franz Edelman Award, which emphasizes organizational impact. For details on the application process, please visit [http://www.informs.org/WagnerPrize](http://www.informs.org/WagnerPrize), which may also be located from the INFORMS website Awards page, under "Subdivision Prizes and Awards." You can also contact me, the prize chair, at Allen.Butler@va.wagner.com.

THE INDEPENDENT PRACTITIONER IN TODAY'S ECONOMY

By G. Jack Theurer, Member, CPMS Council
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The role of independent practitioner of operations research requires a special personality. In my 21 years of independent consulting I knew many others who have come and gone. It's a profession not for the faint of heart. If you don't enjoy the ride of living close to economic highs and lows, then it may not be for you. And the current economy offers a whole new challenge.

First a few words about how I got here. Straight out of graduate school in the heyday of remote-computer-timesharing services (there were no PCs in those days, only mainframe computers) I joined one such company called United Computing Systems (UCS). During my five years with the company as an external consultant (analyst) I learned the nuts and bolts of consulting and salesmanship. The company sent the analysts to the same one-week off-site sales training course that sales reps attended.

After UCS I worked for American Express for seven years as an internal consultant, serving clients within the company on a spectrum of OR applications.

And after American Express I formed my own consulting firm, G. Theurer Associates Inc., specializing in OR/MS applications in business and industry. Here I have been fully engaged since 1988.

There aren't many of us out there. What are the factors that lead one to succeed as an independent practitioner? I see two main factors that separate those who endure from those who don't.
The first is what I mentioned before: a personality that permits you to be comfortable riding the ebbs and flows of the economy, not too worried by downtime between projects. The independent practitioner should view downtime between projects as a positive because it offers an opportunity for networking and for building new skills. Because downtime is inevitable, you should have financial reserves to see you through. No guaranteed regular paycheck comes with this role. I used to plan reserves of six month's living expenses. To allow for changes in the economy, I increased that amount to one year's expenses. For the current economy I have no guideline to offer. The independent practitioner should be comfortable with the uncertainty that accompanies the job.

Second, the independent practitioner should be skilled at, and comfortable with, salesmanship and networking. I cannot stress this requirement enough. Looking back on my own career it appears that consulting was a natural for me, considering that I first worked as an external consultant (UCS), then an internal consultant (American Express), and now an independent consultant. However, the sales training that I received early in my career at UCS (both the formal classroom training and the informal training from working side-by-side with the company's professional sales team) laid the groundwork for me in both skills and comfort level. For my own practice, the most important sales skill has been networking. Virtually every project that I worked on in the last 15 years came to me through personal contacts or personal referrals plus repeat business. A discussion on salesmanship could be the subject of a whole new article.

I've known numerous OR practitioners who struck out on their own but eventually threw in the towel. By my assessment every one of them was an expert operations researcher. The reason why they didn't persevere is that they were lacking in one or both of the factors explained above: personality for the role and being a salesman.

In my over-30-year career I'm finding that the current economic situation poses a challenge I have never seen before. I've ridden many ups and downs in the economy, but this time it's different. How is it different?

Thousands of people are being laid off from their jobs around the country; our profession is not exempt. In the past this was good for our business because six months down the road companies would conclude that they overdid it with the ax yet they were reluctant to hire new headcount. Their solution was to hire consultants. However, from what I can see in the current economy, the amount of OR being done is not decreasing. This would seem like good news except for the fact that much OR work in business and industry is now being outsourced to offshore sites around the world where wages are considerably lower. When the economy rebounds that work will not return. It is gone forever. So what does an independent practitioner do?
This is where the next challenge comes in. My sense is that in order to stay in business in today's economy as an independent practitioner living and working in the US, two opportunities are available:

1. Work that requires client-facing engagements where both the consultant and the customer must be in the same room to get things done. However even in this case the software work is often sent offshore. The key is to be engaged in the client-facing stages of project design and solution delivery. This is not always so easy when the independent practitioner does the whole project from beginning to end, often the case, including the software work that sometimes may be done elsewhere for a fraction of the cost.

2. Having something "new" to offer. This can mean "staying ahead of the trend," on the forefront of developments in OR. It can also mean something that is tried and tested in one industry but new to another one, or applying it to new situations. The point is to have a unique offering. A lot of applications that matured over the years (e.g., statistical target models in the financial industry) are being standardized and sent to modeling factories overseas (to their detriment in my opinion). For OR professionals who did that kind of work previously their work is done. It's time to move on to something new or bring it to an industry where it is new.

Keeping abreast of tools, techniques and software applications is important. An article that Leonard Silk wrote in his economics column in *The New York Times* about 15 or 20 years ago comes to mind. In the article he wrote that to invest in the stock market one doesn't have to know much about economics. Rather, one needs to understand mob psychology and the rule is when it comes to investing your money to not be where everybody else is. My sense is that the same rule may apply today to doing consulting work in operations research.

G. Jack Theurer is president of his consulting firm G. Theurer Associates Inc. which has specialized in OR/MS applications in industry and has focused mainly on the financial sector. He has been an independent practitioner for 21 years.

**THE CASE FOR PRACTICE CERTIFICATION**

By Scott Nestler, Jennifer Leong and Mike McCoy
INFORMS Credentialing Committee
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Apart from holding a university degree, no broadly accepted standards exist for the knowledge, training and experience of an operations research (OR) practitioner. This, coupled with the large variation in backgrounds among practitioners, makes it
difficult for employers or contractors of OR services to recognize a practitioner's true abilities. In some cases, the high demand for OR skills and a limited supply of people with OR degrees have resulted in individuals educated in OR-related fields -- such as mathematics, computer science, and various branches of engineering -- being assigned to perform OR functions. This can be problematic when senior managers truly need people with OR competence on project teams. Management may choose the wrong people for the job or may under-utilize people who have OR skills. In addition, consultants selling their OR expertise to organizations may have difficulty differentiating their skills from skills of other consultants with less expertise.

Established to address this issue, the INFORMS Credentialing Committee has three objectives: (1) develop an outline of acceptable standards for OR practice, (2) develop a credentialing process that evaluates individual practitioners against those standards and recognizes them accordingly, and (3) prepare a business-case analysis on the OR credentialing program for presentation to the INFORMS board of directors.

We see numerous potential benefits for OR practitioners, INFORMS as a professional society, academia, and employers. With a shared understanding of professional standards across the work environment, those employing OR practitioners should be better able to advantageously match OR professionals and OR groups to challenges and opportunities. Academics should increase their understanding of the practitioner workforce and its requirements for continuing education. For INFORMS, a program should facilitate growth of the professional community, broadcast the availability of continuing education, and support networking. For individual OR practitioners and OR consultants, a certification program should offer a professional credential, a way of charting professional development, and an opportunity for peer recognition.

The effort to establish a credential has its critics. For example, one practitioner feels that credentialing could become a way for "mediocre people who jumped through all the hoops to marginalize more competent people who didn't bother to get the credential." Additionally, if the credential is administered solely by PhD-holding academics, it could actually drive away from INFORMS bachelors-degree and masters-degree holders, who may already feel unsure about where they fit in the profession. Those concerns and others will need to be addressed as the effort moves forward.

These are still early days. To encourage feedback, the committee will host a panel session at the INFORMS Conference on OR Practice in Phoenix, AZ on April 27, 2009. Please join us there! For more information about the credentialing effort, please see the article in the February 2009 issue of OR/MS Today.

The committee recognizes that the INFORMS leadership and membership ultimately own this program. The program's success
will require valuable input and assistance from all segments of the INFORMS membership. We should safeguard our discipline to ensure that our work as practitioners is recognized, valued, and competent. And we should provide a path to success for the future generations of practitioners to come. The committee would welcome your thoughts, comments, and suggestions. If you are interested in providing feedback, or would like to participate in the program's development, please email the committee at: credential@informs.org.

Scott Nestler, PhD, is an Army officer and director of the Center for Data Analysis and Statistics, U.S. Military Academy at West Point; Jennifer Leong is a Coast Guard officer at the Coast Guard Legacy Sustainment Support Unit. Mike McCoy, PhD, is a Technical Fellow in Operations Research at The Boeing Company.

JOIN THE CPMS GROUP ON LINKEDIN

By Clinton Brownley, Member, CPMS Council cbrownley@gmail.com

Have you ever wondered who else is a member of CPMS? Have you ever wanted to get in touch with your CPMS colleagues and been unable to do so?

With our new CPMS group on LinkedIn (www.linkedin.com) you can meet and learn about other members of CPMS. You can send individual messages and initiate group discussions. Use this forum to inform members of upcoming events and opportunities, to ask questions and provide answers, and to share your stories.

We look forward to having you join our CPMS group on LinkedIn. If you have any questions about creating an account on LinkedIn or joining the CPMS group, please email me at cbrownley@gmail.com.

SEND US MATERIAL FOR FUTURE ISSUES

By Randy Robinson, Chair, CPMS Newsletter Committee randy.robinson@mac.com

We hope you like the CPMS Newsletter's new look. And we welcome your comments, announcements, or article ideas to be considered when we prepare the next issue. Please send your correspondence to me at randy.robinson@mac.com.
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