INFORMS Practice Section: a Unique Group with a Unique Mission

By Ranganath Nuggehalli, CAP, Chair, INFORMS Section on Practice, RNuggahalli@ups.com

Whenever the INFORMS Section on Practice (formerly CPMS, the College for the Practice of Management Science) is mentioned, it would not be surprising if what comes to mind is the Edelman Gala. Though the Franz Edelman Award has been in existence for 48 years, the award, and the activities associated with it have gained increased recognition since the introduction of Edelman Gala banquet and award ceremony in 2006. The Practice Section has been the steward of the Edelman Gala and three of the four prizes featured in the gala—Franz Edelman Award, UPS George D. Smith Prize, and the Wagner Prize.

These prizes have achieved international recognition, and are attracting competitors from all corners of the world. The competitions, presentations made in these competitions, associated videos, and the articles published in Interfaces (soon to be the INFORMS Journal on Applied Analytics—as Mike Gorman describes in the following article) are helping us reach a wide band of O.R. professionals and disseminate the best practices. Videos of the presentations by the Edelman Award competitors have become the most watched INFORMS productions.

The INFORMS Annual Meeting in Phoenix, from November 4-7, features a keynote reprise of the 2018 Edelman Award winner, the Federal Communications Commission (Tuesday, 3:40pm); in an era when so many complain of governments acting inefficiently, it is a pleasure to see a government organization using advanced analytics so spectacularly well in expanding the capability for next-generation wireless technologies while reducing the federal deficit by over $7 billion. Other Edelman finalist reprises in Phoenix are at 1:30pm Sunday (China National Petroleum—planning pipeline operations, Turner Broadcasting—allocating advertisements to television air time, Europcar—managing the capacity and prices of car rentals) and at 4:30pm Sunday (Pediatric Heart Network—establishing clinical practice guidelines for treating congenital heart defects, and Intel—for lights-out inventory management). Each of these works are inspiring and insightful. Lessons from each success story can
be applied in your work.

Also important are other sessions that are organized by the Practice Section. These are generally well attended and get good reviews. This year, under the leadership of Carrie Beam, we have a number of exciting sessions. And some in new format too. I would like you to learn the details from Carrie herself. Please look for the article by Carrie that follows Mike Gorman’s article below.

The widespread recognition gained by the gala and the prize recipients honored in it has been good for the profession and the Practice Section. This success underscores the fact that the predominant goal (and contribution) of our section is to facilitate and better practice in all areas of OR/MS and analytics.

These are exciting times for our profession. O.R. and analytics have garnered significant attention from business leaders and the media as a profession that can have significant impact on literally every facet of the society.

My involvement with the Practice Section began around 2009. Over the years, I have had the opportunity to interact with a number of the members. To say that I am impressed by their dedication to the profession and the section is an understatement. Thanks to the members who volunteer significant time and effort to support the activities of the section!

We have a lot to be proud of with what we have achieved. And we have a lot more we can do. We should focus on broadening our section’s reach and increasing our impact. Rebranding Interfaces as the INFORMS Journal on Applied Analytics is a major step in this direction. I would like to hear your opinions and ideas about additional initiatives that would benefit practice.

We could start our discussion about future initiatives at the Practice Section reception that is going to be held in conjunction with the INFORMS Annual Meeting in Phoenix on Tuesday, November 6, 2108. Please see the details below. Drinks and appetizers will be served. You are welcome to bring a guest who is not a member of the Practice Section.

**The Practice Section Reception and Business Meeting**

**Date/Time:** Tuesday, November 6, 2018, 5–6:30pm

**Location:** Mancuso’s Restaurant (in Collier Center)

201 E Washington St, Suite 201

Phoenix, Arizona 85004

Mancuso's is very close to the Phoenix Convention Center, the place of
the Annual Meeting. Looking forward to seeing you there!

If you have any comments, suggestions, or questions, please email me at rnugehalli@ups.com.

 Interfaces Gets a New Name: INFORMS Journal on Applied Analytics

By Michael F. Gorman, Editor-in-Chief, Interfaces, michael.gorman@udayton.edu

As I complete my second year as Editor-in-Chief (EiC), I am glad to report Interfaces is doing well. With this newsletter report, I expect that it will do even better, with a name change for our journal.

In my first EiC statement, I suggested I wanted to continue to build connectivity to the Analytics movement, our Analytics Section, and the Innovative Applications in Analytics Award (IAAA). We have done that with the planned special issue in 2019 based on five finalists in IAAA.

In my second Editor’s statement, I made the case for changing the name of Interfaces to the INFORMS Journal on Applied Analytics (IJAA). A healthy debate followed both in online forums and in person with my editorial board, the INFORMS board, and among the general INFORMS membership. I appreciate the passion and interest in Interfaces and its important role in our community.

I am excited to announce that, after an extensive survey of INFORMS membership, the INFORMS board approved the name change. Beginning with the January/February 2019 issue, the name of the journal will be the INFORMS Journal on Applied Analytics! This decision was not taken lightly, and all voices were heard.

Objections were significantly outweighed by the many rationales.

1. **Outreach.** Interfaces is an outreach journal - outreach to educators, students and practitioners, most of whom are not INFORMS members. Those possible downloaders, subscribers, or INFORMS members think interfaces is about coax cables and USB ports.

2. **Branding.** The name change is consistent with INFORMS strategy. The list of Analytics related successes is long, including the Analytics Society, the Analytics Conference, and the Certified
Analytics Professional exam. Recently, the Edelman Award has adopted a new name along these lines as well: Franz Edelman Award for achievement in advanced analytics, operations research, and management science.

3. **Growth.** With the more descriptive name *INFORMS Journal on Applied Analytics*, the content published is more likely to reach students, instructors, practitioners and researchers in related disciplines, and introduce them to the benefits of OR/MS and analytics in practice. This outreach role is critical to the journal’s value proposition. I anticipate a growth in the rate of search hits, downloads, subscriptions, and paper submissions as a result of reaching a wider audience.

As I argued last year the *INFORMS Journal on Applied Analytics (IJAA)* makes sense for *Interfaces*. Think about how the name communicates its mission.

- **INFORMS.** Branding our organization. When a professional googles “analytics”, INFORMS shows up as part of the search. As with so many of the broader INFORMS initiatives, this helps place INFORMS and OR/MS in the center of analytics.
- **Journal.** This conveys academic rigor. This isn’t a magazine, glamor, fluff, or marketing. We will continue to maintain an academically rigorous review process. Our editorial mission will not change. I anticipate an increase in submissions, and as a result the quality of accepted articles and IJAA reputation will improve.
- **Applied.** This is not a theoretical journal. We want potential authors to know their work must be applied. Impact is measured in dollars and lives more than citations.
- **Analytics.** The word analytics is a primary driver of our name change. Its prominence enables us to reach a wider audience—particularly the professionals who identify with, are excited by, and will turn to a journal that features this word.

I believe that the name *INFORMS Journal on Applied Analytics* will increase the ability of the journal to meet both of its objectives of rigorous academic research and outreach for our discipline.

### Practice Sessions at the Upcoming 2018 Annual Meeting

**By Carrie Beam, Chair, Practice Section**

**Sponsored Sessions, cmbeam@uark.edu**

We have all sorts of exciting practice sessions at our annual meeting in Phoenix!

We start by inviting you to the Franz Edelman Award activity. In addition to a full-length reprise from the 2018 winner, the Federal Communications Commission...
(Tuesday, 3:40pm), attendees can catch talks from finalists China National Petroleum, Turner Broadcasting, Europcar (Sunday 1:30pm), Pediatric Heart Network, and Intel (Sunday 4:30pm). From hearts to parts, we have you covered.

Safety while completing marathons is possibly the one aspect of life not covered during the Edelman reprises, but for all you safety-conscious folks out there, and also for our visualization enthusiasts, we offer the Innovative Applications in Analytics Award winner reprise as well: Northwestern University and the Bank of America Chicago Marathon team will talk about “SAFE (Situational Awareness for Events): A Data Visualization System.” (Monday 8am).

Once you’ve run your marathon (and done your banking with Bank of America), you will want to kick back with your favorite issue of Editor’s Cut, our online journal curated by experts bringing the best of INFORMS publications to your web browser in real time. These two sessions will showcase journal contents, especially useful for professors on the hunt for relevant case studies. Editor’s Cut is always accepting new editor volunteers, so you can learn what it means to participate. Topics here include Cybersecurity, Elections, Transportation, Agribusiness, (Sunday 8am), Human Trafficking, Crowdsourcing, and Retail (Sunday 11am).

Analytics is hot, possibly even hotter than Phoenix in the summer, and we offer a session outlining what it takes to train the next generation of OR and analytics experts. Our session on “Developing Robust Analytics Curricula” will cover an overview of analytics education from the supply side covering what we teach (UC Davis, Denison University, University of Denver, and University of Arkansas) and from the demand side what they want to hire (corporate America.) (Monday 11am).

Once you actually have a job, you can refine your skills at our panels on O.R. Applications in Medicine (Tuesday 10:30am) and on Pricing and Revenue Management in the Real World (Tuesday 12:05pm).

And finally, at this conference we debut our new game show, "Freestyle O.R. Supreme" (Monday 4:30pm). Jim “the Client” Williams of FICO plays our client, and he has a Problem. We have three teams led by Sanjay Saigal of U.C. Davis, Ken Fordyce of Arkieva, and Aaron Burciaga of the United States Marine Corps Reserve. Contestants will be randomly assigned to a team just before the competition starts, have one (Internet-free) hour with their teams to brainstorm a solution, and then present the solution to Jim and our audience. Jim will give his feedback to each team and select the winner. Hiring? Come sit in the audience and see how our budding consultants do on the fly. Want to play? We still have a few spots left. Students (undergraduate and graduate), and early career professionals are especially invited to play, but we will take anybody, up to and including your Chancellor. To sign up, contact Carrie Beam at cmbeam@uark.edu.
2018 Wagner Prize Competition

By Patricia Neri, Chair, 2018 Wagner Prize, patricia.neri@sas.com

INFORMS has selected six finalists for the 2018 Wagner Prize competition to be held on Monday, November 5.

The Daniel H. Wagner Prize for Excellence in Operations Research Practice emphasizes the quality and coherence of the analysis used in practice. Dr. Wagner strove for strong mathematics applied to practical problems, supported by clear and intelligible exposition. This prize recognizes those principles by emphasizing strong analytical content, verifiable practice success, and both good writing and good oral presentation.

The schedule for presentations of the Wagner Prize competition, on Monday, is

8–9:30am

Analytics and Bikes: Riding Tandem with Motivate to Improve Mobility
This talk describes two data-driven projects for bike-sharing: improving the allocation docks to stations, and the creation of an incentive scheme to crowdsource rebalancing. Both of these projects have been fully implemented to improve the performance of bike-sharing. The largest provider of bike-sharing systems, Motivate, has moved hundreds of docks in its systems nationwide and its Bike Angels program now aids rebalancing in San Francisco and New York City.

What’s Wrong with My Dishwasher: Advanced Analytics Improve the Diagnostic Process for Miele Technicians
Miele, a leading appliance manufacturer, uses a decision-support system to optimize its service process, based on statistics learned from historical data about technician visits, containing both structured and unstructured (textual) data that had to be combined to create the probabilistic model. The results of a pilot study demonstrated a significant improvement of efficiency, concomitant with an increase of an already very high first-fix rate.

11am–12:30pm

Primal-Dual Algorithms for Order Fulfillment at Urban Outfitters, Inc.
Urban Outfitters uses a novel algorithm for the omni-channel fulfillment problem. This method does not require explicit demand forecasts. This implementation processes on average eighteen thousand customer
orders a day, and as many as one hundred thousand orders on peak demand days. The system has saved at least six million dollars annually relative to an incumbent industry standard.

Centralized Admissions for Engineering Colleges in India
The Indian Institutes of Technology (and other universities in India) use a process based on the well-known Deferred Acceptance algorithm, but complex rules regarding affirmative action seat reservations led to algorithmic innovations: (i) heuristic for incorporating non-nested common quotas that span multiple programs, (ii) method to utilize unfilled reserved seats, and (iii) an approach that reduces variability in the number of reserved category candidates admitted, while retaining fairness. The new seat allocation process went live in 2015 and has led to a provable reduction in vacancies.

4:30–6pm

Combinatorial Exchanges for Trading Fishery Access Rights
Overfishing is an environmental concern. New South Wales implemented a first-of-a-kind market design for the reallocation of catch shares and the largest combinatorial exchange to date. The market design addresses previous solution weaknesses of lack of participation and fair payments. The implemented exchange illustrates how computational optimization and market design can provide policy tools to solve complex policy problems considered intractable only a few years ago. The exchange operated from May to July 2017 and effectively reallocated shares from inactive fishers to those who needed them most.

Collaborative Human-UAV Search and Rescue for Missing Tourists in Nature Reserves
The use of unmanned aerial vehicles (UAVs) is becoming commonplace in search and rescue tasks in complex terrains. An evolutionary algorithm uses biogeography-inspired operators to evolve a population of solutions to find the optimum or a near-optimum search plan within an acceptable time. The proposed method has been successfully applied to two real-world operations for searching and rescuing missing tourists in a nature reserve in China. Compared to the old method, the new method shortened the time required for reaching the targets by 79 minutes and 147 minutes in the two cases.

We encourage all who are interested in successful practice to attend any or all of the Wagner Prize sessions.

VP Practice Report: News about Board-Level Practice Activities
The INFORMS Board met at the Spring Analytics conference and again at a summer meeting in Baltimore. Practice-related items include:

- The Board approved a motion to provide funding to cover the travel expenses for one INFORMS representative to attend the local ceremony of the winner of the UPS George D. Smith prize, if such a representative is invited and is willing to participate. I was honored to represent INFORMS at the ceremony of this year’s winner, the Haslam College of Business, University of Tennessee, Knoxville. See the following article on the UPS George D. Smith Prize by Rina Schneur for more on this event.
- The Board also approved the nomination of Larry Seiford, Tauber Institute, University of Michigan, as Chair of the Committee on Industry-Academia Collaborations.

Update on Practice Committees

- **Industry Outreach and Engagement Committee.** The committee has been very busy with a number of activities. We have been developing a document “How to Get Started with Analytics”, which should be very beneficial for companies who want to be more data driven, but don’t know how to get there. We are also working on the concept of creating a coaching cadre to help companies with taking the Analytics Capability Evaluation (ACE).
- **Committee on Industry-Academia Collaborations.** Dr. Seiford will be hosting the inaugural meeting of the committee at the upcoming Annual Meeting in Phoenix.
- **Practice Strategy Committee.** As the VP, Practice, I chair this committee and I will be hosting the inaugural meeting of the committee at the upcoming Annual Meeting in Phoenix.

If interested in serving on any of the Practice committees or subcommittees, please contact me at vp_practice@mail.informs.org.

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**UPS George D. Smith Prize**

By Rina Schneur, Chair, 2018 UPS George D. Smith Prize, rinarsg@gmail.com

The winner of the 2018 UPS George D. Smith Prize was the MS in Business Analytics Program, Haslam College of Business, University of Tennessee. They were named the winner at the April 16th Edelman Gala in Baltimore, Maryland.
Their success was celebrated again at their university in Knoxville, Tennessee on October 10th. This ceremony was held in conjunction with the school’s Business Analytics Forum that featured many well-known speakers from industry including Amazon and IBM. The ceremony was attended by more than 150 people.

Steve Mangum, the Dean of Haslam College and Wayne Davis, the Chancellor of UT Knoxville welcomed the attendees. Allen Butler, the INFORMS VP, Practice, and Ranganath Nuggehalli, the Chair of the INFORMS Practice Section participated in the ceremony. Dr. Butler gave a presentation of the Importance of Collaboration Between Analytics Practitioners and Academia. He discussed the different types of collaboration, and also the good and bad things that result from collaboration.

Dr. Nuggehalli talked about the history of the UPS George D. Smith Prize. His talk also featured a video from David Abney, the CEO of UPS who spoke about the importance of the profession and why it is essential to train students in practicing OR and analytics. Dr. Butler presented the citation on behalf of INFORMS and the prize judging committee. Melissa Bowers, Director of their Master’s Program in Business Analytics, received the citation on behalf of the program. Dr. Nuggehalli presented the trophy to Mike Galbreth, the head of the Department of Business Analytics and Statistics.

In her acceptance speech, Dr. Bowers recognized various members that contributed to starting the program and making it successful. She thanked both INFORMS, UPS, and the Practice Section for instituting this award. Dean Mangum gave the closing remarks.

The ceremony ended with a long and boisterous photo session and cocktail reception.

Please plan to attend the keynote presentation by the winning team at the INFORMS Annual Meeting in Phoenix on Monday November 5th at
3:10pm in West Building 301C.

The UPS George D. Smith Prize is currently in its eighth year. Applications are being accepted for the 2019 prize. The deadline is October 31st. If you know of a program that is a good candidate for the prize, please encourage them to apply.

2019 UPS George D. Smith Prize Application Deadline: October 31, 2018

Social Media—for Exploring American Communities and Sharing News Articles with the INFORMS Section on Practice

By Clinton Brownley, Chair, Section on Practice LinkedIn Group, cbrownley@gmail.com

I recently read the book *Our Patchwork Nation: The Surprising Truth About the “Real” America*, by Dante Chinni and James Gimpel, which strives to replace the simplistic image of America as red versus blue states with a more colorful, nuanced view of communities across the country. Having been sufficiently primed to notice information about the diversity of American communities, I saw a few related articles I’d like to share with members who may be interested in the topic and as examples of using social media to share information—something we should consider as analytics professionals who frequently develop decision support and related software to provide our clients with useful information.

The first article, *Where You Grow Up Can Affect Your Future*, describes a new interactive tool, Opportunity Atlas, you can use to explore social mobility in your community and across the nation.

The second article, *How Connected Is Your Community to Everywhere Else in America?*, describes the results of an analysis of Facebook data, which shows that distance, rather than like-mindedness, is a dominant factor in social connections. That is, people “are far more likely to know people nearby than in distant communities that share their politics or mirror their demographics.”

The third article, *A Map of Every Building in America*, invites you to explore building development in your local community with an interactive map, as well as general patterns of development stemming from westward expansion, natural geology, distant culture, urban and suburban planning, and organic growth.

Like the book *Our Patchwork Nation*, these articles illuminate interesting
distinctions among American communities and provide informative lenses through which to better understand their diversity. They also exemplify using social media to share information, which a fourth article, *How to Use Social Media in Your Career*, asserts “is now a critical part of the way people in most walks of life communicate.” According to the article, the benefits of using social media include “discovering new ideas, connecting with audiences, bringing attention to your work, and building your brand,” and the first social media platform the article discusses is LinkedIn.

Our INFORMS Section on Practice has a group on LinkedIn, and it is an excellent medium for sharing articles you think other members may find interesting, educational, or thought-provoking.

I encourage you to take a moment when you read an enlightening article—relevant to our profession—to share it with our group on LinkedIn.

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**Note from the Newsletter Editor**

By R. John Milne, Editor, INFORMS Section on Practice Newsletter, jmilne@clarkson.edu

My apologies for a shorter-than-usual newsletter. My thanks to the contributing authors who responded to the one-week lead time I provided! The absence of an article dedicated to the Edelman competition in this issue is a byproduct of the short lead time.

Please send your article ideas, announcements, or comments, to be considered for future issues to jmilne@clarkson.edu. This newsletter is brought to you by the authors and by:

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Analytics Magazine: Sneak Preview

The upcoming November/December issue of Analytics magazine offers a diverse collection of content with such intriguing titles as “Will the real data scientist please stand up?” and “Everything you wanted to know about AI and ML but were afraid to ask.” The issue also offers a recruiter’s view of the analytics job market, three ways the healthcare industry can benefit from analytics, and predictions for analytics and data science for 2019 and beyond.

Meanwhile, the September/October issue also covers plenty of ground, including articles on how analytics is revolutionizing healthcare, a set of values that should guide the AI revolution and the future of AI in fact checking. In the new era of trade tariffs, volatility and other threats, another topic that deserves attention is strengthening global supply chains. Meanwhile, Corporate Profile turns the spotlight on data science at Monsanto.

CAPs and Coffee event scheduled at Annual Meeting

INFORMS has organized a “CAPs and Coffee” event for Certified Analytics Professionals (CAPs) during the 2018 INFORMS Annual Meeting in Phoenix. The event, set for Tuesday, Nov. 6 from 3:30–4:30pm in the Cassidy Room at the Hyatt Regency Phoenix, will provide an opportunity for CAP holders to network and connect with their CAP peers to discuss the value of CAP and recommendations on how to promote their certification, as well as CAP recertification. For more information about the CAP program, visit https://www.certifiedanalytics.org.

2018 INFORMS Annual Meeting heading for Phoenix

The 2018 INFORMS Annual Meeting will be held Nov. 4-7 at the Phoenix Convention Center and Hyatt Regency Phoenix in Phoenix. The theme of this year’s meeting is “Smart City and Sustainable Communities,” the new paradigm when it comes to urban sustainability. The conference offers unique opportunities to connect and network with the more than 5,000 INFORMS members,
students, prospective employers, employees, and academic and industry experts.

Check out this page with curated practice content.