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Letter from the Editors

Dear readers,

We, as the new editorial team, are more than excited to present you the newest issue of OR/MS Tomorrow magazine.

In this issue, we introduce "Stochastic Challenge", a new website dedicated to providing tools to students so they can learn about stochastic processes in a fun and simple way. We also present two reprints of articles recently published in INFORMS journals. The first is an article from a very interesting special issue of the Information Systems Research (ISR) journal and studies the impact of community feedback on initial product self-designs on customer satisfaction, usage frequencies and monetary valuations. The second, which is a Management Science article, focuses on competitive incentives and shows that competitive incentives may induce agents to work harder but not necessarily smarter. You can read the reprint of both articles under Featured Research Article section.

There is also a Student Chapters section in which we highlight some of the recent accomplishments and activities of the University of Massachusetts Amherst INFORMS student chapter as the Chapter Spotlight. In this section, you will also read about this issue's Featured Event, "Inaugural Dow Big Data Challenge", which is an interesting competition supported by the Dow Chemical Co. and consisted of teams of students from the Department of Industrial and Systems Engineering at Texas A&M University and from the University at Buffalo.

In every issue, we are also pleased to spotlight an INFORMS society or section as well as an INFORMS student chapter. In this issue, the INFORMS Behavioral Operations Section states its goal as "promoting behavioral research" within the INFORMS community and explains what competitions and activities are associated with it.

Last but not least, this issue includes a list of some of the important upcoming conferences and journals with special Issues.

We hope that our online effort keep you up-to-date on the highlights and happenings of INFORMS societies and student chapters.

Sincerely,

The Editors (Sara, Amanda, Vaggelis, Ruixue, Ryan, Christy)

Featured Research Articles on Social Media and Work Incentives

Since the readers of OR/MS Tomorrow are coming from a variety of different backgrounds, in this issue, we have chosen to bring you two articles that we believe could be interesting to most of you. If the words social media and work incentives raise your interest somehow, then this issue is for you!

"Competitive incentives may induce agents to work harder but not necessarily smarter"

Recently, the Information Systems Research (ISR) journal published a very interesting special issue on the relationship between social media and business transformation (Information Systems Research vol. 24, no. 1) and this is where our first article comes from. Under the very promising title "When Social Media Can Be Bad for You: Community Feedback Stifles Consumer Creativity and Reduces Satisfaction with Self-Designed Products", a group of researchers from Switzerland, Germany and Canada study the impact of community feedback on initial product self-designs on customer satisfaction, usage frequencies and monetary valuations [1]. Even if you are not interested in the technical details of this study's methodology, make sure you read the discussion that follows where the authors present their views on both the theoretical contributions and the managerial implications of their results.

Changing topic, what do you think represents you better? Working harder or Working smarter? And what types of incentives are working better on your efficiency and productivity? Anat Bracha and Chaim Fershtman have recently published their research and views on this topic in their Management Science article on "Competitive Incentives: Working Harder or Working Smarter?" [2]. The authors attempt to answer this question by using an experimental approach that showed that competitive incentives may induce agents to work harder but not necessarily smarter. The implications of these results for many organizations who choose to provide their employees with strong and competitive incentives hoping to exert more effort cannot be underestimated. It seems like they might have taken the wrong path.

Want to read something different in this section OR/MS Tomorrow's. Let us know by contacting us.

Competitive Incentives: Working Harder or Working Smarter?

[1] Reprinted by permission, Bracha A., Fershtman C., Competitive Incentives: Working Harder or Working Smarter?, Management Science, volume 59, number 4, April 2013. Copyright 2012, the Institute for Operations Research and the Management Sciences, 7240 Parkway Drive, Suite 300, Hanover, Maryland 21076 USA.

When Social Media Can Be Bad for You: Community Feedback Stifles Consumer Creativity and Reduces Satisfaction with Self-Designed Products, Informati...

[2] Reprinted by permission, Hildebrand C, Häubl G, Herrmann A, Landwehr JR, When Social Media Can Be Bad for You: Community Feedback Stifles Consumer Creativity and Reduces Satisfaction with Self-Designed Products, Information Systems Research, volume 24, number 1, March 2013. Copyright 2013, the Institute for Operations



Interview about Stochastic Challenge—A New Way to Learn about Stochastic Processes

I recently sat down with Dr. Timothy Matis, a professor at Texas Tech University, to learn about Stochastic Challenge, a new website dedicated to providing tools to students so they can learn about stochastic processes in a fun and simple way. He explains the features of the site, which include StochasticWiki, video tutorials, and calculators.

Thank you for meeting with me, Dr. Matis. What is Stochastic Challenge?

Stochastic Challenge is a new website dedicated to stochastic processes designed and produced through professors and students at Texas Tech University, Missouri University of Science and Technology, and University of Texas Pan American. We made the website very user friendly and fun with the bright colors and graphics. Stochastic Challenge has three main features, StochasticWiki, video tutorials, and calculators. Our goal is to provide students, or really anyone, with tools to learn effectively in a fun and simple environment. We want students to learn how to use stochastic processes in modeling. Unfortunately, this is something that is isn't commonly taught in universities. By offering it online in a new way we hope students will take full advantage and learn something new.

The web site is very eye-catching! I immediately see in bright vivid black and yellow letters "Not Yo Mama's encyclopedia." Please explain more about this.

Absolutely! Our website has a feature called StochasticWiki, which is an online encyclopedia devoted to solely stochastic processes. Think Wikipedia, but just for stochastic processes. We wanted to provide a wiki page where we can get very detailed about the concepts and include examples. Using StochasticWiki you can learn more about stochastic processes topics, like expectations, limit theorems, or Poisson processes. Most pages include the definition and then examples. You can also add information to the topics you've already mastered in order to help out others and help StochasticWiki grow into truly a full stochastic processes encyclopedia. You don't need a login to edit the pages, but you can request one if you want to add a new topic.

Is StochasticWiki monitored to ensure that all the information entered is accurate?

As of now we occasionally check for accuracy and relativity. In the future, we hope as our community grows they will help us monitor the page and correct any mistakes.

You mentioned the website also has video tutorials. Can you tell us a bit about these?

Yes, Stochastic Challenge has short videos to teach real world problems. Right now we have 12 videos, available in both English and Spanish. We actually taped on-site at several companies including a hospital, a clothing company, a healthcare clinic, a mountain resort, and others. You can watch the video describing the problem, try to solve it, and then watch the solution video to check your work or even to learn about a new concept. We made the videos short and to the point. The problem videos are usually about 7 minutes long and the solution videos are only about 2 minutes. Each video covers a specific topic. For example, one of the videos at the hospital teaches about conditional expectation. The video sets up the scene by interviewing the assistant divisional director at the hospital and he provides detailed information about their hospital. Then we give a brief description of the problem and data. So this video we explain that there is an expected length of stay based on the patient's diagnoses, then we give that data. We end the video by providing the equation needed to solve the problem and determine the expected length of stay. In the solution video, we fill in the equation with the data provided and give the final solution.

Wow. Sounds great! Stochastic Challenge has calculators as well, correct?

Yes, the web site has several calculators. They are all web-based. You type in the data, and hit the send button. The data comes to our server where the software R calculates the results and then they appear in your browser less than a second later. We have calculators for common calculations for discrete and continuous Markov chains and statistical inference. This is really cool because there is nothing else like this. Typically you have to write your own code to solve these types of problems. Ivan Guardiola and Brian Schaefer at Missouri University of Science and Technology have already written the code for you and made it into an easy to use web interface. I think the students will really like it!

Where can readers learn more about Stochastic Challenge?

Please visit our website at www.stochasticchallenge.org for more information. We also have Facebook, Twitter, and YouTube pages, so check them out. Let us know what you think! We would love feedback from students on how Stochastic Challenge has helped them and on what we can do to make it even better. And be sure to tell your friends!

Is there anything else about Stochastic Challenge readers should know?

This project was funded by the National Science Foundation through grant 1044133. I also recently received the Fulbright Grant and will be traveling to Chile to film 5 more videos! Industrial Engineering is vastly growing in Chile and we hope these videos will reach out to South and Latin American students. We also have several ideas in the works for new video tutorials to help students learn even more, so students should continue to check the site for new videos!

Chapter Spotlight - UMASS Amherst

UMASS Amherst Student Chapter of INFORMS Chapter Activities



The UMASS Amherst INFORMS Chapter was re-established in 2004 with a vision to promote Operations Research and Management Science among students. For its activities, it has been recognized by INFORMS and has received either the INFORMS Chapter Magna Cum Laude Award (4) or the Summa Cum Laude Award (2) for six years in a row.

Members of the chapter are mainly graduate students from the Isenberg School of Management, the School of Engineering, and other departments. These student members and faculty conjoin for activities that enable the exchange of ongoing research and industry insights.

Seminars

The chapter holds seminars every semester, such as Lecture Series, Meet a PhD Alum, associated events, and has also organized a Meet the Executive lecture Series and events. Prominent scholars and industry practitioners are invited to deliver talks about their fields of application, research, and findings. They also generously share their precious experiences, achievements, and ideas.

Field Trips

Organizing occasional field trips to industry sites to see the facilities and understand the workings is another activity of this chapter. These direct encounters have facilitated the appreciation of the practical limitations of a system. One of the recent excursions was to ISO New England, Holyoke, MA. Led by the faculty advisor of the chapter, members were introduced to the operations of ISO New England and they got the opportunity to see their state-of-the-art control room.

Social Events

The chapter also organizes social events throughout each semester. Students and faculty enthusiastically participate in various events such as ping pong tournaments, bowling nights, golf outings, and billiard nights. The end-of-semester parties are quite special and much awaited. These informal roundups often lead to the candid sharing of experiences and interesting discussions on OR/MS.

Workshops



They conduct workshops for: (1) Preparing students who have been selected for presenting their research in the INFORMS Annual Conference – which is called “Tune-up for INFORMS”. Interactions among the students and their peers during these tune-ups enable the exchange of tips for presentation and also bring forth thought-provoking questions. (2) Sharing the award-wining chapter’s working structure with other INFORMS student chapters - In the Panel Discussion at the INFORMS Northeast Regional Conference, 2011, the student members served as volunteers to share the best practices and provided useful suggestions for running a student chapter successfully.

Featured Event - Inaugural Dow Big Data Challenge

Inaugural Dow Big Data Challenge at Texas A&M and University at Buffalo Draws to a Close

Friday, April 26th, marked the culmination of Texas A&M University's INFORMS Student Chapter inaugural Dow Big Data Challenge. Supported by The Dow Chemical Company, the Dow Big Data Challenge pitted a total of 27 teams against each other in a three-week race to creatively dissect and analyze two years of real-world Dow data.

Entries for the inaugural Dow Big Data Challenge consisted of teams from the Industrial and Systems Engineering departments at Texas A&M University and the University at Buffalo. The challenge brought leadership from both Texas A&M and Buffalo INFORMS Student Chapters together to coordinate all aspects of the competition from entry to award. In total, 67 graduate students and 21 undergraduates entered the competition to assess rail car demand and transportation data for Dow's North American rail car fleet. Students were encouraged to use their knowledge of optimization, data analytics, computer science, simulation, statistics and experimental design to uniquely identify ways to improve Dow's rail fleet management.

"This has been an incredible opportunity for our students to work on a challenging and realistic problem. It is great practice for us as we prepare for careers in a data-rich world,""

Of the 27 original teams, nine submitted final reports and presentations to faculty judges from both universities; the judges then selected five team finalists. Finalists then presented directly to three Dow representatives on the Texas A&M University campus, with the University at Buffalo attending and presenting live via video conference. Prizes were awarded to the first, second and third place teams whose creativity and innovation in their data analysis best captured Dow's interest and attention.

As the inaugural Dow Big Data Challenge Sponsor, Dow contributed financial support for prizes awarded to the top three teams in addition to supplying the challenge's data. "We are extremely excited to partner in the challenge and were very impressed with the submissions received," said Dow's Stew Serpas, who worked closely with Kevin Hunter (Dow) and Doug Sturgis (Dow) throughout the inaugural challenge. "This type of innovative, integrated collaboration with academia adds tremendous value not just to the rail fleet management team, but to Dow as a whole," said Serpas.

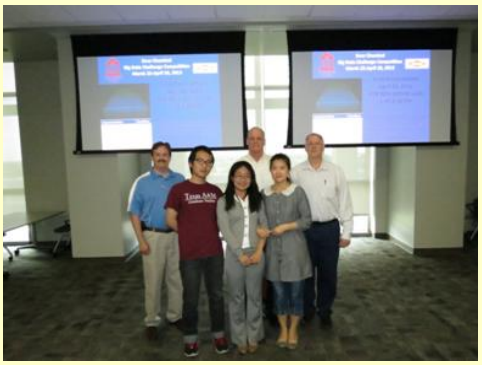
"This has been an incredible opportunity for our students to work on a challenging and realistic problem. It is great practice for us as we prepare for careers in a data-rich world," said John Coles, challenge participant and former University at Buffalo INFORMS Student Chapter president. The University at Buffalo organization team for the Dow Big Data Challenge included current student chapter president Geoff Gross, president-elect Michael Moskal and faculty advisor Jun Zhuang, in addition to Mr. Coles.

The Texas A&M University organization team was lead by current INFORMS Student Chapter president Michelle Alvarado, with strong support from president-elect Gokhan Memisoglu and VP-communications Shachi Pande. The student chapter also received help from faculty mentor Dr. Justin Yates.

The Dow Big Data Challenge posed many unique communication challenges as students from both universities collaborated to make this competition a reality. Online conference calls, video chats, and presentations were a regular part of the endeavor. Texas A&M University's information technology team, which consists of Dennis Allen, Mark Hopcus, and Mark Henry, played a critical role in overcoming communication barriers and ensuring that the best technology was available during student presentations.

Plans for the 2014 Dow Big Data Challenge are already in discussion with all parties set to reprise their roles in year two. The Texas A&M University and University at Buffalo INFORMS Student Chapters anticipate a stronger second year and will use their first-year experiences to help pave the way for other student chapters to either participate in the Dow Big Data Challenge or to develop their own. "This is not a one-time challenge and our goal in this has always been to increase the uniqueness and diversity of our students' experiences outside of the classroom," said Texas A&M University INFORMS faculty advisor Dr. Justin Yates. Yates continued, "Our hope is that our template can be used to increase the availability of these opportunities to students nationally and that we show how the creativity and hard work of our student leaders transforms and distinguishes their organizations."

The 2013 Dow Big Data Challenge Winners are:



1st Place - Texas A&M University

(L to R) Kevin Hunter (Dow Sponsor),Shilan Jin, Yanjun Qian, Stew Serpas (Dow Sponsor), Su Zhao, and Doug Sturgis (Dow Sponsor)



2nd Place - Texas A&M University

(L to R) Kevin Hunter (Dow Sponsor), Gokhan Memisoglu, Stew Serpas (Dow Sponsor), Abhilasha Katariya, Samyukta Sethuraman, and Doug Sturgis (Dow Sponsor)



3rd Place - University at Buffalo

(L to R) Georgia Cruz, Michael Moskal, Geoff Gross and John Coles

Society Spotlight

The INFORMS Behavioral Operations Section was established in 2008. The section is growing steadily, attracting doctoral students that are interested in behavioral work and researchers in various disciplines of OR/MS. New members are always welcome to join!

"Behavioral Operations has emerged as a field with the objective of improving our understanding of human behavior in operational contexts"

Behavioral Operations has emerged as a field with the objective of improving our understanding of human behavior in operational contexts. Models often assume rational behavior. In reality, consumers, managers and employees are neither mechanistic nor purely rational actors. Accounting for how people actually behave (as opposed to assuming how they should behave) can improve the accuracy and usefulness of operations management models.

Recent examples of behavioral work published in INFORMS journals include a study on the behavioral implications of different payment schemes in supply chains (1), forecast sharing in supply chains (2), and the productivity effects of incentive framing on the shop floor (3). The most recent Daniel Wagner prize for Excellence in Operations Research Practice went to a team of researchers that applied a model that was built on behavioral foundations (4).

The objective of the Behavioral Operations Section at INFORMS is to promote behavioral research within the INFORMS community. We organize a track every year at the annual INFORMS meeting that is focused on behavioral research. Further, we organize an annual best working paper competition to promote innovative research in the area – deadline for submissions was July 1 this year – please contact Anton Ovchinnikov for further details, or find out more here.

We also promote and support the annual behavioral operations conference, which took place June 27-29 in Ann Arbor this year – please contact Stephen Leider for further details. If you are interested in behavioral research, join our business meeting at the INFORMS annual meeting this Fall, or send an email to Enno Siemsen.

Undergraduate Student Competition

The co-editors of INFORMS ORMS Tomorrow would like to invite undergraduates involved in research in OR to submit a synopsis of the work they are currently contributing to or have recently (within the last two semesters) contributed to. The best will be featured in a future edition of INFORMS ORMS Tomorrow. If interested, students should provide 1000-2000 words on the nature of the research and emphasize their contribution. All well written articles that indicate the significant contribution of the student will be included in upcoming issues.

Upcoming Conference and Special Journal Issues of Interest

INFORMS Annual Meeting 2013 Minneapolis
Dates: Sunday October 06 2013 - Wednesday October 09 2013
Location: Minneapolis Convention Center & Hilton Minneapolis, Minnesota, USA

2014 INFORMS Conference on Business Analytics & Operations Research
Dates: Sunday March 30, 2014 - Tuesday April 1, 2014
Location: Westin Boston Waterfront, Massachusetts, USA

INFORMS Annual Meeting 2014 San Francisco
Dates: Sunday November, 16 2014 - Wednesday November 19, 2014
Location: Hilton San Francisco, California, USA

Special Journal Issues of Interest

Decision Analysis
Vol 9. No. 2 - June 2012 - Games and Decisions in Reliability and Risk

Information Systems Research
Vol 24. No. 1 - March 2013 - Social Media and Business Transformation
Upcoming. Information, Technology, and the Changing Nature of Work

Management Science
Vol 58. No. 1 - January 2012 - Behavioral Economics and Finance, Part 1
Vol 58. No. 2 - February 2012 - Behavioral Economics and Finance, Part 2
Upcoming - Business Analytics

Manufacturing & Service Operations Management
Vol 14. No. 4 - Fall 2012 - Applications of Healthcare Operations Management
Vol 15. No. 3 - Summer 2013 - The Environment
Upcoming - Practice-Focused Research

Marketing Science
Vol 31. No. 3 - May/June 2012 - User-Generated Content (UGC)
Vol 32. No. 2 - March/April 2013 - ISMS-MSI Practice Prize Competition (Special Section)

Operations Research
Upcoming - Operations Research for the Public Interest
Upcoming - Information and Decisions in Social and Economic Networks

Organization Science
Vol. 23 No. 2 - March/April 2012 - Attaining, Maintaining and Experiencing Status in Organizations and Markets
Vol. 23 No. 5 - September/October 2012 - Organizational Economics and Organizational Capabilities: From Opposition and Complementarity to Real Integration
Upcoming - The Psychology of Organizational Networks
Upcoming - Routine Dynamics: Exploring Sources of Stability and Change in Organizations

Service Science
Upcoming - Cloud Computing as a Service
Upcoming - Service Mining: Market, Technology, and Application

Transportation Science
Vol. 47 No. 1 - February 2013 - Advances in Vehicle Routing
Upcoming - Freight Transportation and Logistics
Upcoming - Energy and Transportation: Meeting the Challenge
Upcoming - Facility Logistics
Upcoming - Maritime Transportation and Port Logistics