

DATA MINING NEWS

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A Message from the Chair

Hi Everyone! First, I would like express my sincere gratitude for your strong support of the INFORMS Section on Data Mining (DM) this year! Over the last 11 years, the section has grown dramatically to over 400 members and has become one of the most active communities in INFORMS. This growth has been due to the efforts of the past advisory boards, section chairs, secretary-treasurers, council members, webmaster-newsletter editor, session chairs, and other active members.



Last year, as the section chair, I was fortunate to work with Dr. Art Chaovalitwongse (Chair-

Elect & Cluster Chair), Dr. Shawn Mankad (Secretary/Treasurer), four council members (Dr. Onur Seref, Dr. Hui Yang, Dr. Shuai Huang, and Dr. Chun-An Chou), and Dr. Kaibo Liu (webmaster & newsletter editors). Without their efforts, we could not have had such a successful year for our section.

At the INFORMS Annual Meeting in Minneapolis this year, the DM cluster sponsored 21 technical sessions. Special thanks go to the Cluster Chair, Dr. Art Chaovalitwongse, for putting together this comprehensive cluster. Thank you to all session chairs who organized high quality sessions for the cluster this year. More information about the cluster is included in an article below.

Dr. Onur Seref served as the chair of the DM Best Student Paper Award competition. Among 35 papers submitted, the top four papers were selected for the presentation at the DM Best Student Paper Competition session. Congratulations to the winner Hao Yan and the other three finalists Marios Kokkodis, Jialei Wang, and Adams Wei Yu. Thank you to Dr. Seref and the team of reviewers for their work in selecting the finalists and winner. More information about the finalists is included in an article below.

In conjunction with the INFORMS Annual Meeting, the annual Data Mining-Analytics workshop was held. Dr. Durai Sundaramoorthi and Dr. Hui Yang invested a tremendous amount of time and effort to organize the workshop which was reflected in a high quality event. This year, the DM section, the Analytics section, and the Quality, Statistics, and Reliability (QSR) section co-organized the workshop. In addition, great thanks are given to our workshop sponsors, including SAS, Walmart Labs, IBM, Caterpillar, University of South Florida, and Washington University in St. Louis. More information about the workshop is included in an article below.

This year, INFORMS has three invited sessions at the Statistical Learning and Data Mining (SLDM) 2014 Conference on June 9-11, 2014, in the Durham Convention Center. Thanks Dr. Cynthia Rudin for helping organize all three sessions. SLDM is a section of the American Statistical Association and holds conferences once every 2 years. It is a good way to link the INFORMS data mining community with the statistics data mining community. More information about the SLDM can be found at: <http://www.amstat.org/sections/sldm/>

Again, it has been a great pleasure to work with all the officers this year. I am sure that the DM section will have another great year in 2015 with the new slate of officers: Dr. Art Chaovalitwongse, Chair, Dr. Cynthia Rudin, Chair-Elect, Dr. Mustafa Gokce Baydogan, Council Member, and Dr. Veena Mendiratta, Council Member.

Myong K. (MK) Jeong

Rutgers, the State University of New Jersey

Review of 2014 INFORMS Annual Meeting

The 2014 INFORMS Annual meeting was held in San Francisco, California November 9-12, 2014. The Data Mining Section sponsored 21 sessions, chaired by Dr. Art Chaovalitwongse. The sessions covered a variety of topics including Machine and statistical learning and planning for mechanical, medical and bioinformatics applications; Data analytics and optimization for manufacturing system design, energy and healthcare applications; Social media and network analysis; and business data analytics. Dr. Cynthia Rudin will take the lead in organizing the cluster for the INFORMS Annual Meeting next year. At the business meeting, the Secretary/Treasurer Dr. Shawn Mankad reported that the section continues to grow in membership and is in good financial health.

Review of the Workshop on Data Mining and Analytics

The Data Mining (DM), Analytics, and Quality, Statistics, and Reliability (QSR) Subdivisions of the Institute for Operations Research and Management Sciences (INFORMS) jointly organized the Workshop on Data Mining and Analytics (INFORMS DM-Analytics 2014) on November 8, 2014 at San Francisco, CA, in conjunction with the 2014 INFORMS Annual Conference. A total of 23 papers were selected for presenting in two parallel all-day tracks (8

sessions) at the workshop and some were invited to a special issue of Annals of Operations Research. The detailed session information and abstracts are available on the INFORMS website (<https://informs.emeeetingsonline.com/emeetings/WebSitePapersv2.asp?mmno=261&pagename=SITE89724>).

The program co-Chairs of this workshop were Durai Sundaramoorthi (Washington University) and Hui Yang (University of South Florida). The Management Committee consisted of Kwok-Leung Tsui (City University of Hong Kong), Victoria Chen (University of Texas at Arlington), Nick Street (University of Iowa), W. Art Chaovalitwongse (University of Washington), Kang Zhao (University of Iowa), and Paul Brooks (Virginia Commonwealth University).

Review of the 6th Annual INFORMS Data Mining Student Paper Award

There were a significant increase in the number of submissions to the INFORMS Data Mining Best Student Paper competition this year over past years. A total of 35 papers were submitted and these papers were evaluated by 14 reviewers. Dr. Onur Seref organized the competition this year.

The top four papers were selected for the presentation at the 2014 INFORMS Annual Meeting in San Francisco, CA. The information on the four finalists and their papers is as follows.

- Marios Kokkodis: Career Development Paths in Online Labor Markets, New York University



- **Jialei Wang:** Finding Short Peptide Substrates using Bayesian Active Learning, Cornell University



- **Hao Yan:** Image Defect Detection with Smooth-Sparse Decomposition, Georgia Tech



- **Adams Wei Yu:** Saddle Points and Accelerated Perceptron Algorithms, Carnegie Mellon University



The winner of the Best Student Paper Award, **Hao Yan** at Georgia Tech, was announced at the Data Mining business meeting.

The award was established in 2009 to increase the involvement of students in the section, facilitate networking among students with interest in data mining, and recognize excellent student work.

Announcements

Faculty Opening Positions:

- **Hong Kong University of Science and Technology (Faculty Position in Engineering Statistics and Analytics)**

The Department of Industrial Engineering and Logistics Management at HKUST invites applications for tenure-track junior faculty position, with emphasis on Engineering Statistics and Data Analytics. We are seeking candidates with strong methodology background in Statistics and an interest in interdisciplinary research. Applicants should have a PhD degree in a related discipline, and demonstrate potential for excellence in both teaching and research.

HKUST is ranked first in Asia by QS World University Rankings three years in a row and

its Engineering School has also been ranked among the world's top 25 since 2004. The Department has attained international recognition and we have a strong group of researchers in two main areas, Design and Manufacturing (including Design, Quality and Ergonomics), and Logistics Management (including Operations Research, Operations Management and Financial Engineering). Located in the gateway to China and the most dynamic logistics hub of Asia, the Department is expected to experience rapid growth in the near future.

Salary is competitive and will be commensurate with qualifications and experience. Fringe benefits include annual leave, medical/dental benefits. Housing benefits will be provided where applicable.

Applications with a full CV, statement of research and teaching, transcript, and names of three referees, should be directed to the Faculty Search Committee by email to ielm@ust.hk. More information about the Department can be found at <http://www.ielm.ust.hk>.

- **University of Wisconsin-Madison**

The Department of Industrial and Systems Engineering at the University of Wisconsin-Madison has a number of faculty positions in various areas of interest to the industrial engineering and data mining community:

- Health systems engineering
- Living environments laboratory
- Advanced manufacturing

To ensure the best chances of consideration, please submit your application as soon as possible. More information about the position can be found at <https://www.informs.org/Community/Data-Mining-Section/Job-and-Internship-Opportunities>.

- **Virginia Tech**

The Grado Department of Industrial and Systems Engineering (<http://www.ise.vt.edu/>) at Virginia Tech invites applications for five (5) full-time, tenure-track or tenured positions starting in the 2015-2016 academic year.

There were two positions becoming available very recently (review begins on March 2, 2015) in the areas of: (1) Advanced Manufacturing, and (2) Systems Engineering & Systems Science.

Apart from the above positions, there were three positions announced some time ago (review begins Jan. 5, 2015) in the following areas: (3) Mathematical Optimization and Operations Research, (4) Human Factors Engineering and Ergonomics, and (5) Emerging Frontiers of Industrial Engineering.

The detailed information and application submission links of all five openings can be found from the following link: http://www.ise.vt.edu/EmploymentOpportunities/EmploymentOpportunities_index.html

Schedule of Upcoming Annual INFORMS Meetings

2015

November 1-4, 2015
Pennsylvania Convention Center & Marriott
Philadelphia Downtown
Philadelphia, PA.

2016

November 13-16, 2016
Music City Center & Omni Nashville
Nashville, TN.

Celebrating Member Achievements



Marty Ellingsworth founded a startup to accelerate the next frontier in risk assessment and pricing segmentation. He is now President of Salt Creek Analytics, and their first product, FreshMiles, manages data supply and compliance for vehicle mileage in auto insurance.

Dr. Dohyun Kim joined Department of Industrial and Management Engineering at Myongji University in Korea as an assistant professor.



Dr. Benjavan Upatising recently accepted a new position at Umass Memorial Health Care in Worcester, MA. Her new position is Business Intelligence Manager starting on Jan 26, 2015. She has worked in industry for over 18

years for companies such as Whirlpool Corporation, Toshiba, Accenture in both USA and Thailand, where she employed her expertise as an industrial engineer in operations research, systems simulations and training to address manufacturing, systems and project management needs.

Dr. Fred Glover, Distinguished Professor, Emeritus, at the University of Colorado, Boulder, and also the Chief Technology Officer for OptTek Systems, Inc. has made the following two developments: the Honorary Professorship, China University of Mining and Technology, and the Honorary Director, Institute of Management Science & Industrial Engineering, China University of Mining and Technology.



Ph.D. candidate, Jihoon Kang from the Department of Industrial Management Engineering at Korea University will graduate in Feb. 2015. His thesis topic is “Robust Statistical Process Control for Dynamic Manufacturing Environments” and his academic advisor is Prof. Seoung Bum Kim

Section Officers (2013 – 2015)

Chair

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Vice Chair

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Secretary / Treasurer

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Council Members

Onur Seref
Virginia Polytechnic Institute and State
University

Hui Yang
University of South Florida

Shuai Huang
University of Washington

Chun-An Chou
Binghamton University

Advisory Board Members

Susan Albin
Rutgers University

Russ Barton
Pennsylvania State University

George Runger
Arizona State University

Kwei Tang
Purdue University

Janet Twomey
Wichita State University

Jeff Wu
Georgia Institute of Technology

Kwok-Leung Tsui
City University of Hong Kong

Former Chairs

Kwok Tsui (2003-2004)
City University of Hong Kong

Tom Au (2004-2005)
AT&T Lab

Tory Chen (2005-2006)
University of Texas at Arlington

Andrew Kusiak (2006-2007)
University of Iowa

Wei Jiang (2007-2008)
Stevens Institute of Technology

Xiaoming Huo (2008-2009)
Georgia Institute of Technology

Rong (Winnie) Duan (2009-2010)
AT&T Lab

Seoung Bum Kim (2010-2011)
Korea University

Jing Li (2011-2012)
Arizona State University

Paul Brooks (2012-2013)
Virginia Commonwealth University

Webmaster/Newsletter Editor

Kaibo Liu
University of Wisconsin-Madison

Let's Share Your Achievements
Please send your achievements –
appointment, awards, grants,
promotions, and others to **Kaibo Liu** at
kliu8@wisc.edu

Data Mining Section Website

Please visit our website at
<http://dm.section.informs.org/>.

The screenshot shows the homepage of the Data Mining Section website. The header includes the Informs online logo and navigation links for Home, Membership, Systems, News & Events, Job and Internship Opportunities, Conferences and Special Issues, and Contact. The main content area is titled "Overview" and contains a mission statement and a list of announcements. The announcements include the 2013 Data Mining Best Student Paper Finalists, a list of award winners, and information about the 2014 INFORMS Annual Meeting. The right sidebar features a "Follow Data Mining Section" button, a "Key Contacts" section with Paul Brooks' contact information, and a "Certified Analytics Professional (CAP) Program" advertisement. The footer includes a "Data Mining Section Newsletter 2013 Preparation" notice and a "San Francisco 2014 General Annual Meeting" advertisement.