ICS Business Meeting

Seattle, 2019

Meeting agenda

- Announcements
- ICS Prize
- ICS Student Paper Prize
- Harvey Greenberg Award for Service
  - Future of this award
- fORged-by-Machines Contest
- Officer nominations
- Treasurer's report
- IJOC report
- INFORMS Seattle cluster report and conclusion

Announcements

ICS 2021 has a home and a date

January 24-26, 2021
Tampa, Florida (stay later for Super Bowl XLIII ☺)

NOTE: We listened! New dates to promote attendance. *Please give this conference a high priority. ICS needs your engagement.*

ICS Prize

William E. Hart, Carl D. Laird, Jean-Paul Watson, David L. Woodruff, Gabriel A. Hackebeil, Bethany L. Nicholson & John Siirola

for spearheading the creation and advancement of Pyomo, an

open-source software package for modeling and solving mathematical programs in Python

ICS Student Paper Award

Honorable mentions:

Sebastián Pérez-Salazar

Dynamic Resource Allocation in the Cloud with Near-Optimal Efficiency
Georgia Tech

Liyan Xie

Robust Hypothesis Testing Using Wasserstein Uncertainty Sets
Georgia Tech

Winners:

Ryan Cory-Wright and Jean Pauphilet

A Unified Approach to Mixed-Integer Optimization: Nonlinear Formulations and Scalable Algorithms
Massachusetts Institute of Technology

COMMITTEE:

Frank Curtis (Chair), Sergiy Butenko, and Georgina Hall

ICS Harvey J. Greenberg Award for Service

Awarded to an individual in recognition of their impact on the INFORMS Computing Society (ICS). The award is named in honor of Harvey J. Greenberg, whose service to the Society exemplifies the spirit of the award. The Award is intended to be a "lifetime achievement" award.

Winner:

Allen Holder
Rose-Hulman Institute of Technology

COMMITTEE:

Karen Aardal (Chair), Ted Ralphs, and Andrea Lodi

Award Transition

- 2019 is the last Harvey Greenberg Award for Service (will still have an ICS Distinguished Service Award in 2021)

- Proposal passed (2019) to launch Harvey J Greenberg Research Award

- Our donor, Dr. Bill Pierskalla, sweetened the deal

  - Old: he matches donations up to $15k.

  - **New**: matches donations up to $20k, 2-to-1 matching! **So we raise $10k, he puts in $20k.**
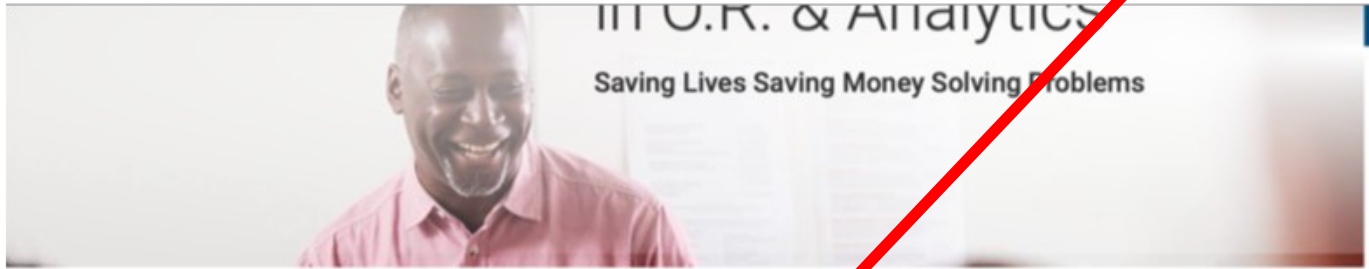
Award Transition

- But we need your help!
  - ICS, individuals, departments, companies can contribute
  - Your donation of $x puts $3x in the bank
  - Need to raise this by end of 2019 (should get an extension)
- Donations over $500 will be acknowledged on our website
- Ask Mary Magrogan (mary.magrogan@informs.org) for help

How do I donate?

How do I donate?

How do I donate?

fORged by Machines Contest

Dr. Suvrajeet Sen

University of Southern California

Thanks to Elected Officers!

Thanks to Karen Aardal and Jim Ostrowski for their service to ICS!

Nominations

ICS Vice-Chair/Chair-Elect

ICS Secretary-Treasurer

  2-year terms

ICS Board of Directors

  Two positions for 3-year terms

Treasurer's Report

ICS Balance
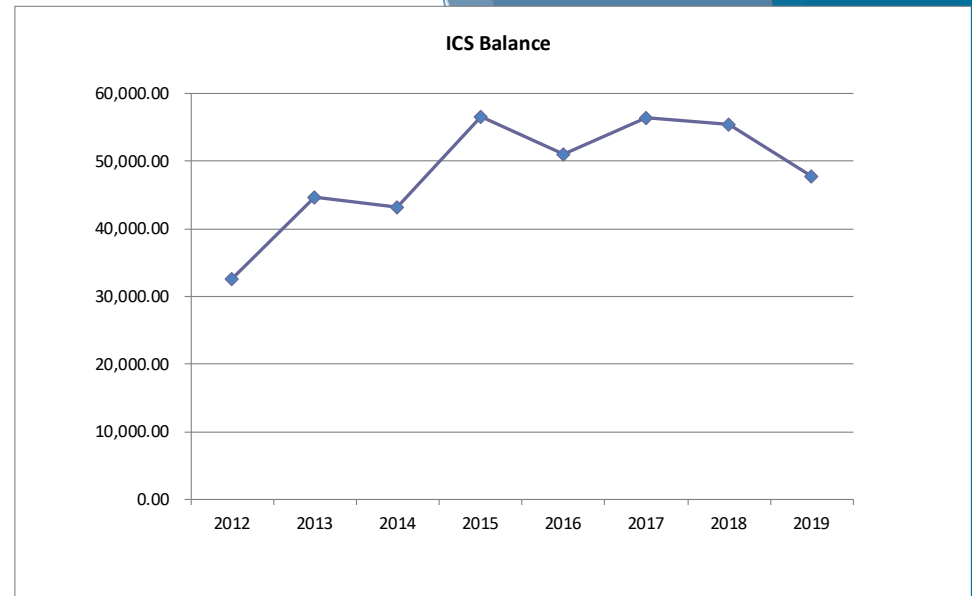
	2014	2015	2016	2017	2018	2019
Revenue	5,330.00	5,100.00	4,944.00	4,991.00	5,671.00	3,555.00
Expense	6,724.00	4,400.00	10,469.87	3,443.00	6,770.00	669.00
Meeting Profit	0.00	12,603.03	0.00	3,927.00	0.00	(9,609.00)
P/L	(1,394.00)	13,303.03	(5,525.87)	5,475.00	(1,099.00)	(6,723.00)
Balance	43,240.04	56,543.07	51,017.20	56,492.20	55,392.00	47,731.00

Treasurer's Report

Historic annual revenue
- Dues: $4000

Historic expenses
- Business meeting: $2000
- Award expenses: $1500
- Administrative Expense: $900

OR/MS Today
Analytics

Looking for authors for articles on Optimization and Computing

Contact Mary Fenelon mfenelon@mathworks.com
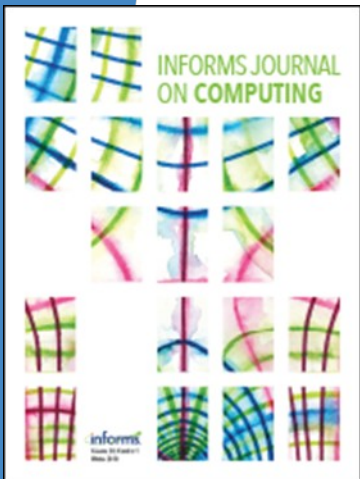
INFORMS Journal on Computing

INFORMS Annual Conference

October 2019
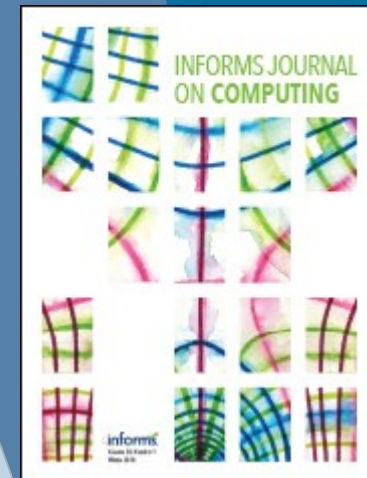
Leadership Team

- EIC, Alice Smith
- Managing Editor, Kelly Kophazi

- Advisory Board
  - John Chinneck
  - Bill Cook
  - Bruce Golden
  - Jim Orlin
  - Pascal Van Hentenryck
  - David Woodruff

* red means new to the role

Areas and Area Editors

- Applications in Biology, Medicine, and Healthcare, Paul Brooks

- Stochastic Models, Nicola Secomandi

- Design and Analysis of Algorithms – Continuous, Antonio Frangioni

- Design and Analysis of Algorithms – Discrete, Andrea Lodi

- Heuristic Search, Erwin Pesch

- Knowledge Management and Machine Learning, Ram Ramesh

- Modeling: Methods and Analysis, Pascal Van Hentenryck

- Network Optimization: Algorithms and Applications, David Alderson

- Simulation, Bruno Tuffin

- Software Tools, David Woodruff

Associate Editors

- 65 Associate Editors
- 33 added
- 19 rolled off
- Net addition of 14

- ~ 70% INFORMS members

YEAR	AVERAGE OF # DAYS BETWEEN ORIGINAL SUBMISSION & FIRST DECISION	AVERAGE OF # DAYS BETWEEN ORIGINAL SUBMISSION & FINAL DECISION
2014	113.5	264.2
2015	135.2	303.9
2016	133.4	320.0
2017	149.0	354.3
2018	136.7	294.6
2019 (through 3Q)	118.1	194.7

Time in Review (does not include Desk Rejects)

- 14% First Decision Reduction
- 34% Final Decision Reduction

Submissions During 2019
(through mid-October)

Applications in Biology, Medicine, and Healthcare	26
Design and Analysis of Algorithms – Continuous	13
Design and Analysis of Algorithms – Discrete	59
Heuristic Search	14
Knowledge Management and Machine Learning	36
Modeling: Methods and Analysis	18
Network Optimization: Algorithms and Applications	14
Simulation	21
Software Tools	2
Stochastic Models	18
No Area Chosen or Not Applicable	10
Grand Total	**231**

Applications in Biology, Medicine, and Healthcare	42
Design and Analysis of Algorithms – Continuous	49
Design and Analysis of Algorithms – Discrete	127
Heuristic Search	30
Knowledge Management and Machine Learning	93
Modeling: Methods and Analysis	38
Network Optimization: Algorithms and Applications	35
Simulation	52
Software Tools	15
Stochastic Models	28
No Area Chosen or Not Applicable	26
Grand Total	**535**

Papers Handled / Responsible for During 2019
(through mid-October)

Some Pertinent Statistics

- Acceptance rate 2019 = **22.7%**

- Downloads = **32,588**, over 50% increase from 2018

- Backlog = ~**78** papers, or **7+** numbers of issues (!)

- Increase of **160** pages in 2020 budget (up to 1056)

PUBLISHING BACKLOG IS OUR MAIN CURRENT ISSUE

Some Changes Effective 2019

- Move from issue based immediate publication to paper based immediate publication

- Default of 3 reviewers per paper

- Moved plagiarism check to associate / area editors

- More personalized website

- Policy on submissions with related prior published conference paper

- Two mandatory paragraphs with new submissions – rationale for area and for *IJOC* (published with paper)

- Consider special issue proposals

- Mid-year video meeting of leadership team

New Awards and Recognition

- **Meritorious Reviewer** – nominated by associate or area editors

- **Test of Time Paper Award** – looking at a rolling 5-year window of 10 years prior

- **Meritorious Paper Awards** – nominated by reviewer, associate editor or area editor

Inaugural Test of Time Paper Award

- Committee – John Chinneck (chair), Bill Cook, Bruce Golden, Pascal Van Hentenryck, David Woodruff

- Issue – handling backlog of time periods prior to 2004 (15 years)

- 2004-08

- *Zsolt Ugray, Leon Lasdon, John Plummer, Fred Glover, James Kelly, and Rafael Martí*

- ***Scatter search and local NLP solvers: A multistart framework for global optimization***

- *INFORMS Journal on Computing 19(3):328-340, 2007*

Reflection

- Comments on the 2019 Test of Time Paper Award

- Ugray Z, Lasdon L, Glover F, Kelly J, Marti R

- 10/14/2019

- When we started our work on nonlinear mixed integer programming in 2004 we felt that there was an opportunity to expand on the designs of multistart algorithms to solve these problems. Our flexible framework to combine heuristics as trial solution generators, local solvers supplied with the trial solutions as starting points, procedures to deal with discrete variables, and the inclusion of starting point filters proved to be quite effective. The resulting system described in our 2007 paper incorporated the OptQuest implementation of the scatter search heuristic to generate the trial solutions and the LSGRG local solver to provide high accuracy solutions. Our work showed that the applications of OptQuest in the simulation optimization domain and of LSGRG in the nonlinear optimization domain could be integrated via a multistart framework to provide a useful technology for additional important classes of problems.

- As of October 2019, there are 290 citations of this paper listed in Scopus. The three most cited areas are Engineering, Computer Science and Mathematics. They indicate the usefulness of the approach for applications and as a starting point for further algorithm developments. Another mark of the versatility of the framework is the existence of multistart solvers in many modeling languages and platforms, including MATLAB, TOMLAB, AIMMS, LINGO, and Frontline Systems' Enhanced Excel Solver.

- We would like to thank the Editors of the *INFORMS Journal on Computing* and the members of the 2019 IJOC Test of Time Paper Award committee for selecting our paper for this award. We also wish to remember our late colleague, John Plummer, who contributed so much to our work.

2019 Computing Society Cluster

❖ Co-chaired by Simge Küçükyavuz and Merve Bodur

❖ 35 sessions (up from 19), 139 talks (Tracks 43 and 44)

❖ Topics include computational aspects of:

- Stochastic/Discrete/Nonconvex/Network/Multiobjective Optimization (1/14 MCDM)
- Machine Learning (4/9 DM, 1/9 AI ML, 1/9 IOS)
- Decision diagrams (3)
- Transportation (3)
- Power systems (2/2 ENRE)
- Other applications (3)
- Software (1)

Thank you, and have a wonderful conference!