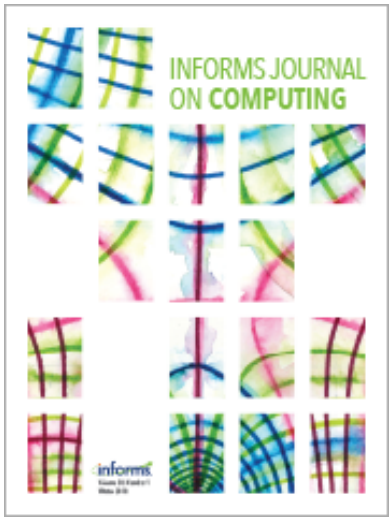

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Note from the Editor

Alice E. Smith

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Note from the Editor

Alice E. Smith[a]

[a] Department of Industrial and Systems Engineering, Auburn University, Auburn, Alabama 36849
Contact: smithae@auburn.edu, https://orcid.org/0000-0001-8808-0663 (AES)

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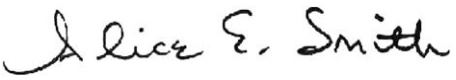
First, I want to share "Congratulations" to two of our area editors who have been elevated to INFORMS Fellows. INFORMS selects only 12 members for this distinction each year so it is competitive indeed. Both Andrea Lodi, Area Editor of Design & Analysis of Algorithms—Discrete, and Ted Ralphs, Area Editor of Software Tools, were awarded this quite prestigious honor in October.

Second, we continue to announce the winners of *INFORMS Journal on Computing* (*IJOC*) Test of Time Paper Award to cover the backlog of awards since the journal's inception. The energetic and able committee chaired by John Chinneck, with members Bill Cook, Bruce Golden, Pascal Van Hentenryck, and David Woodruff, have selected the awardee covering the period 1993 through 1997. What follows is the citation from the award committee and then a reflective interview with the authors about this paper.

I want to thank the committee for their superb efforts and am very pleased to share this recognition of the impactful heritage of our journal.

All my best,



The Test of Time Award for papers published in the *INFORMS Journal on Computing* in the years 1993–1997 is awarded to

CONOPT: A Large-Scale GRG Code

Arne Stolbjerg Drud
ORSA Journal on Computing 6(2):207–216, 1994
https://pubsonline.informs.org/doi/abs/10.1287/ijoc.6.2.207

Test of Time Award Citation 1993–1997

The paper describes developments in the well-known CONOPT nonlinear programming solver. It is notable for a comparison of the algorithmic differences between sequential linearization algorithms and generalized reduced gradient algorithms. By describing the careful selection and implementation of the algorithmic parts of CONOPT (e.g., selection and factorization of the basis, search direction selection, and line search procedures), the paper underscores the impact that the particulars of these decisions have on solver efficiency and robustness. This is an excellent example of good work at the interface of operations research and computer science. CONOPT has been applied to problems in many fields, and the paper continues to be frequently cited to this day.

Retrospection from the Author Arne Stolbjerg Drud

I thank the *IJOC* editor-in chief Alice E. Smith and the selection committee. I also thank Alex Meeraus for encouraging me to write the paper and Leon Lasdon and Michael Saunders for providing constructive comments that helped improve the paper.

The nonlinear programming solver CONOPT has been under development since the late 1970s and is still being developed. The early development was done in academic environments, first at the Technical University

of Denmark and later at the Research Department of the World Bank, where the work was influenced by the initial development of the GAMS modeling system.

The paper describes the status of CONOPT around 1992–1994, what today is called CONOPT2. The emphasis in the paper is on theoretical and practical improvements relative to the earlier CONOPT1. Since then, automatic generation of second derivatives was made available by several modeling systems and the use of these second derivatives was the basis for many of the improvements in CONOPT3. The demand for solving larger and larger models has influenced the development of the latest CONOPT4. Better preprocessing and better handling of large sparse matrices have pushed the limits beyond what CONOPT3 could handle.

CONOPT was developed into a commercial product in parallel with the commercial development of modeling systems such as AMPL, AIMMS, and GAMS. Consequently, the documentation of CONOPT was concentrating on the user aspects, and the theoretical and practical improvements were not documented in detail. Most documentation appeared as appendices to the manuals of the modeling systems and is today available online on the websites of these systems.

The paper is therefore the last properly refereed paper on CONOPT. Many users of CONOPT come from academia and describe the use of CONOPT in academic papers. They often prefer to refer to a refereed academic paper instead of an unrefereed web-based manual. The continued popularity of this paper must therefore be attributed to the lack of a good, properly refereed successor.