

Guest Editorial

Special Issue on Applications of Optimization Techniques

Guest Editors:

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The existence of optimization methods can be traced to the days of Newton, Lagrange, and Cauchy. The necessity to optimize more than one objective or goal while satisfying the physical limitations led to the development of multi-objective programming methods.

In optimization of a design, the design objective could be simply to minimize the cost of production or to maximize the efficiency of production. An optimization algorithm is a procedure which is executed iteratively by comparing various solutions till an optimum or a satisfactory solution is found. With the advent of computers, optimization has become a part of computer-aided design activities.

Different modeling techniques are developed to meet the requirements of different types of optimization problems. Major categories of modeling approaches are: classical optimization techniques, linear programming, nonlinear programming, geometric programming, dynamic programming, integer programming, stochastic programming, evolutionary algorithms, etc.

Some typical applications in different engineering disciplines includes aircraft and aerospace structure, space vehicles, water resources systems, Optimum design of electrical networks, Optimal production planning, controlling and scheduling, etc.

This special issue on *Applications of Optimization Techniques* is brought from the short listed papers from the *International Conference on Reliability, Infocom technologies and Optimization (ICRITO'2013)* held during Jan 29-31, 2013 in Amity University Uttar Pradesh, Noida, India. It contains papers on credit financing, multi-objective linear programming, color based quality analysis, successive releases, ordering policy, weighted performance, pulping system in paper industry and link prediction techniques.

We hope that this issue contributes well to the researchers and academicians in the field of mathematical programming. We acknowledge International Journal of Modeling and Optimization for their kind support and help in bringing out this special issue.



Dr. Deepak Kumar is an associate professor in Amity Institute of Information Technology, Amity University, Noida. He is awarded Ph.D. from Delhi University in topic "Software Reliability Engineering". He has delivered invited talk in University of Maryland, USA, DQM Research Center,

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P. K. Kapur is a professor at Amity International Business School, Amity University, Noida and former head of the Department of Operational Research and former dean of the Faculty of Mathematical Sciences, University of Delhi. He has been the president of Society for Reliability Engineering, Quality and Operations Management (Regd.) since 2000 and former president of Operational Research Society of India. He obtained his Ph.D. degree in reliability theory (operational research) from University of Delhi in 1977. He has published extensively in Indian journals and abroad in the areas of marketing, hardware reliability, optimization, queuing theory and maintenance and software reliability (more than 200 papers). He has recently published a book on "Software Reliability Assessment with OR Applications" (Springer, UK, 2011). He also has supervised over 30 Ph.D and over 20 M. Phil. He has delivered several key-note addresses/invited talks in various prestigious conferences/universities across the globe. Has also undertaken several research projects funded by Government of India (UGC, DST, and DRDO). He has won Lifetime Achievement Awards by SREQOM (2006), BARC (2010) & ICQRIT (2011).



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He is a fellow of IETE, Sr. member of IACSIT, Sr. Life member of Computer Society of India and member of IEEE and IEEE Computer Society.

He is a secretary in society for Reliability Engineering, Quality and Operations Management, India and an honorary member in Governing Council of Delhi Chapter, 3E Innovative Foundation.

He has been conferred "IT Innovation & Excellence Award for Contribution in the field of IT and Computer Science Education" by *Knowledge Resource Development & Welfare Group* on him during Seminar on Advancement & Outreach of Information Technology: Introspection & the road ahead at IIT, Delhi in Dec, 2012. He has also been conferred with the award for "Exceptional Leadership and Dedication in Research" during the *4th International Conference on Quality, Reliability and Infocom Technology in the year 2009*.