CALL FOR CHAPTER PROPOSALS
Proposal Submission Deadline: October 15, 2014
Modern Optimization Algorithms and Applications in Engineering and Economics

A book edited by
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To be published by IGI Global: http://bit.ly/1kwo5vK

For release in the Advances in Civil and Industrial Engineering (ACIE) Book Series

ISSN: 2326-6139

Propose a chapter for this book

The Advances in Civil and Industrial Engineering (ACIE) Book Series aims to present research and methodology that will provide solutions and discussions to meet such needs. The latest methodologies, applications, tools, and analysis will be published through the books included in ACIE in order to keep the available research in civil and industrial engineering as current and timely as possible.

Introduction
Modern optimization approaches have attracted many research scientists, decision makers and practicing researchers in recent years as powerful intelligent computational techniques for solving unlimited numbers of complex real-world problems, particularly related to the research area of optimization. Under the unpredictable and turbulent environment, classical and traditional approaches are struggling to obtain a holistic solution with a greater level of satisfaction for the real world application problems on optimization. Therefore, new global optimization methods are required to handle these issues seriously. One such method is the modern optimization technique, a generic, flexible, robust, and versatile framework for solving complex problems of global optimization and research in real world applications.
Objective of the Book
Modern optimization techniques are robust, less time-consuming, dependable, high quality solutions, and an efficient productive tool for solving the nonlinear real-world problem in engineering, technology, science and economy in an uncertain environment. The modern optimization techniques developed in this book are user-friendly, easy-to-use and can serve as a teaching and research tool, besides being useful for practicing scientists in the areas of engineering, technology and economy. In this book, the editors aim to give a valuable enrichment to state-of-the-art scientific discourse in theory, methods, and applications; to strengthen interdisciplinary ties; and to refresh given and initiate new joint ventures in research and education, for improvements of the industries and economies of the world and for better living conditions and perspectives of its people.

Target Audience
Graduate, Postgraduate students, decision makers and researchers in private sectors, universities, and industries in the fields of various sciences and management, such as mathematics/applied mathematics, physics, chemistry, computer science, management, business, economics and finance, or wherever one wants to model their uncertain practical and real life problems. It is well known that uncertainty is inevitable in every field of engineering, management and science. This book aims to become significant and very helpful for humankind.

Recommended topics include, but are not limited to, the following:

- Combinatorial Optimization Methods
- Dynamic Programming Methods
- Linear Programming Methods
- Mixed-Integer Programming Methods
- Nonlinear Programming Methods
- Optimal Control Methods for ODEs and PDSs
- Optimal Control Methods for Stochastic Hybrid Systems
- Stochastic Optimal Control Methods
- Hybrid Systems

Bio- and Nature-Inspired Methods, including:
- Ant Colony Search Algorithm
- Artificial Bee Colony Algorithm
- Artificial Neural Networks
- Bee-Hive Algorithm
- Binary Differential Evolution Algorithm
- Biogeography-Based Optimization
• B-Snake Algorithm
• Collaborative Tabu Search and Decomposition Method
• Collaborative Tabu search and Simulated Annealing Method
• Cuckoo Optimization Algorithm
• Cultural algorithms
• Differential Evolution
• Differential Harmony Search Algorithm
• Estimation of Distribution Algorithms
• Evolutionary programming Based Tabu Search Method
• Evolutionary Strategies and Evolutionary Programming Methods
• Extended Neighborhood Search algorithm (ENSA)
• Fast Snake Algorithm
• Fire-Fly Algorithm
• Fuzzy Logic Algorithm
• Generalized Reduced Gradient Method
• Genetic Algorithm
• Gravitational Search Method
• Greedy Snake Algorithm
• Guided Local Search
• Harmony Search Algorithms
• Honey Bees Mating Optimization Algorithm
• Hopfield Method
• Hopfield Neural Networks
• Iterated Local Search
• Lagrangian Firefly Algorithm
• Memetic Algorithm
• Meta-Heuristic Algorithm
• Particle Swarm Optimization
• Quantum-Inspired Binary PSO
• Scatter Search Methods
• Seeded Memetic Algorithm
• Self-Realized Differential Evolution Algorithm
• Shuffled Frog Leaping Algorithm
• Simulated Annealing Methods
• Simulated Annealing
• Single and Multivariable Constrained Methods
• Snake Curve Extraction Algorithm
• Stochastic Local Search
• Tabu-Search Methods
• Teaching- and Learning-Based Optimization
• Variable Neighborhood Search
• Waggle Dance Algorithm

**Real-World Application problems:**
• Financial Economics
• Portfolio Optimization
• Stochastic Optimal Control in Finance, Insurance and Economy
• Production planning
• Thermo Electric Cooler
• Plug-in-Electric Vehicle
• Supply chain management

**Power System Optimization:**
• Economic Dispatch
• Unit Commitment
• Hydrothermal Scheduling
• Optimal Power Flow
• Optimal Reactive Power Dispatch
• Maintenance Scheduling
• Optimal Placement of FACTS devices
• Optimal Placement of Capacitor
• Optimal Placement of Distributed Generations
• Optimal Load Shedding
• Optimal Spinning Reserve
• Available Transfer Capability
• Congestion Management
• Maximum Loadability
• Optimization in Micro Grids and Smart Grids
• Maximum Power Point Tracking
• Automatic Generation Control
• Optimal Designing of Power System Stabilizers
• Optimal Load Dispatch
• Optimization of Hybrid Energy System
• Generation Expansion Planning
• Transmission Expansion Planning
• Distribution Expansion Planning
• Optimal Transmission Switching

**Submission Procedure**

Researchers and practitioners are invited to submit on or before September 15, 2014, a chapter proposal of 1,000 to 2,000 words clearly explaining the mission and concerns of his or her proposed chapter. Authors will be notified by October 15, 2014 about the status of their proposals and sent chapter guidelines. Full chapters are expected to be submitted by January 31, 2015. All submitted chapters will be reviewed on a double-blind review basis. Contributors may also be requested to serve as reviewers for this project.
Note: There are no submission or acceptance fees for manuscripts submitted to this book publication, *Modern Optimization Algorithms and Applications in Engineering and Economics*. All manuscripts are accepted based on a double-blind peer review editorial process.

All proposals should be submitted through the link at the bottom of this page.

**Publisher**

This book is scheduled to be published by IGI Global (formerly Idea Group Inc.), an international academic publisher of the “Information Science Reference” (formerly Idea Group Reference), “Medical Information Science Reference,” “Business Science Reference,” and “Engineering Science Reference” imprints. IGI Global specializes in publishing reference books, scholarly journals, and electronic databases featuring academic research on a variety of innovative topic areas including, but not limited to, education, social science, medicine and healthcare, business and management, information science and technology, engineering, public administration, library and information science, media and communication studies, and environmental science. For additional information regarding the publisher, please visit [www.igi-global.com](http://www.igi-global.com). This publication is anticipated to be released in 2015.

**Important Dates**

- **October 15, 2014**: Proposal Submission Deadline
- **November 15, 2014**: Notification of Acceptance
- **January 31, 2015**: Full Chapter Submission
- **March 31, 2015**: Review Results Returned
- **May 15, 2015**: Final Acceptance Notification
- **May 30, 2015**: Final Chapter Submission

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