



## 1st CALL FOR PAPERS

13th Metaheuristics International Conference (MIC)  
July 28 – 31, 2019 - Cartagena de Indias (Colombia)  
Universidad de los Andes (Sede Caribe)

[mic2019@easychair.org](mailto:mic2019@easychair.org)

<http://mic2019.uniandes.edu.co>

### Key Dates and Deadlines for Contributed and Invited Papers

Submission deadline: January 15, 2019

Notification of acceptance: March 18, 2019

Camera-ready papers: April 30, 2019

Early registration due date: April 30, 2019

### What is MIC?

MIC is the main event focusing on the progress of the area of metaheuristics and their applications. MIC provides an opportunity to the international research community in metaheuristics to discuss recent research results, to develop new ideas and collaborations, and to meet old and make new friends in a friendly and relaxed atmosphere. MIC has a long tradition in the metaheuristics community that dates back to the first MIC held in Breckenridge, Colorado (USA, 1995). Since then, MIC has been held in Sophia-Antipolis (France, 1997), Angra dos Reis (Brazil, 1999), Porto (Portugal, 2001), Kyoto (Japan, 2003), Vienna (Austria, 2005), Montréal (Canada, 2007), Hamburg (Germany, 2009), Udine (Italy, 2011), Singapur (Singapur, 2013), Agadir (Morocco, 2015), and Barcelona (Spain, 2017).

### Topics

MIC welcomes presentations covering all aspects of metaheuristic research in five broad topics: 1) **techniques**; 2) **empirical and theoretical research**; 3) **novel industrial applications**; 4) **interfaces of metaheuristics**; and 5) **challenging new problems**.

**1) Techniques.** This category includes research on algorithmic frameworks such as tabu search, simulated annealing, iterated local search, variable neighborhood search, bio-inspired algorithms, memory-based optimization, evolutionary algorithms, memetic algorithms, ant colony optimization, particle swarm optimization, scatter search, path relinking, hybrid metaheuristics, simheuristics, and matheuristics, among others. Equally welcome is research that enhances the usability and increases the potential of metaheuristic algorithms such as parallelization of algorithms, reactive search mechanisms for self-tuning, offline metaheuristic algorithm configuration techniques, algorithm portfolios, among others.

**2) Empirical and Theoretical Research.** This category welcomes research on large-scale experimental analyses, algorithm comparisons, new experimental methodologies, engineering methodologies for stochastic local search algorithms, search space analysis, theoretical insights into properties of metaheuristic algorithms, among other provoking ideas.

**3) Industrial Applications.** We welcome novel and real applications with strong impact in fields such as transportation, healthcare, bioinformatics, energy systems, analytics, big data, data mining, planning and scheduling, production and operations management, finance and economics, marketing, telecommunications, logistics and supply chain, agriculture, among other fields.

**4) Interface of Metaheuristics.** Metaheuristics have proven useful at the interface with other disciplines, such as agent-based models, integer programming (matheuristics), constraint programming, machine learning, and deep learning, among other domains.

**5) Challenging New Problems.** New problems continuously evolve and we are looking for their connections with metaheuristics. For instance, new problems are rising in the fields of big data, machine learning, analytics, and transportation and logistics, just to cite a few.

### **Plenary talks**

**Andrea Lodi** (Polytechnique Montréal – CIRRELT)

TBA

**Michel Gendreau** (Polytechnique Montréal - CIRRELT)

Fifteen years of the *Handbook of Metaheuristics*: A retrospective

**Thomas Stützle** (Université libre de Bruxelles - IRIDIA)

Automated Design of Metaheuristic Algorithms: Methods, Applications and Perspectives

### **Tutorials**

**Luciana Buriol** (Universidade Federal do Rio Grande do Sul)

Metaheuristics in Structural Bioinformatics.

**Christian Prins** (Université de Technologie de Troyes)

Metaheuristics for vehicle routing

**José Fernando Oliveira** (Universidade do Porto)  
Metaheuristics for Irregular Packing Problems: a review

### **Paper Submissions**

Authors are encouraged to submit unpublished and outstanding original contributions in one of the above topics (1) Techniques, (2) Empirical and Theoretical Research, (3) Industrial Applications, (4) Interface of Metaheuristics, and (5) Challenging New Problems. Submissions are electronic, in PDF format, using the easychair system.

**S1)** Extended abstracts of work-in-progress of maximum 3 pages

**S2)** High-quality manuscripts that have been recently submitted or accepted in a journal (within the last six months)

All submissions will be peer reviewed. All submitted papers must follow the submission guidelines outlined below. Accepted contributions of categories S1 will be published in the MIC 2019 conference proceedings. Accepted contributions of category S2 will be orally presented at the conference, but not included into the conference proceedings.

### **Submission Guidelines**

Authors can submit papers either to the open or the invited sessions. For the latter, authors should specify the session where they have been invited to contribute. All papers must be formatted according to the guidelines using the electronic templates (LaTeX and Microsoft Word) available at the conference site. Submissions are electronic, in PDF format, using the easychair system <https://easychair.org/conferences/?conf=mic2019>.

At least one author of each accepted contribution is required to register and attend the conference to present their work, otherwise their paper will be withdrawn. Authors will be required to agree to this requirement at the time of submission. MIC accepts only one presentation per registered author.

### **Special Issue**

After the conference, we will publish an Special Issue on Metaheuristics in the [International Transactions in Operational Research](#) (ITOR) edited by Celso Ribeiro. We will invite the best work presented at MIC2019 to submit extended papers to the special issue. This call will also be open to the whole metaheuristics community. ITOE stats: impact factor: 2.4; ISI Journal Citation Reports Ranking 2017, 21/83 in Operations Research & Management Science.

### **Organizing Committee**

Andrés L. Medaglia – Universidad de los Andes (Bogotá, Colombia)

Jorge E. Mendoza – HEC Montréal (Montréal, Canada)

Rubén Ruiz – Universitat Politècnica de València (Valencia, Spain)

Juan G. Villegas – Universidad de Antioquia (Medellín, Colombia)







