

## PERSONAL INFORMATION

## RESEARCH INTERESTS

## WORK EXPERIENCE

## EDUCATION

## AWARDS

<i>International Constraint Programming Competitions</i>	<b>Mistral-2.0, an open-source constraint programming library:</b>
	<b>2022:</b> Winner in many tracks of the XCSP competition:
	– First of the “mini” optimisation track
	– Third in the main optimisation track

**2020:** Two bronze medals in the Minizinc Challenge  
(free and parallel categories)

**2017:** Winner in many tracks of the XCSP competition:

- First of the main optimisation track
- Second in the fast optimisation track
- Third in the parallel optimisation track

## SERVICE

*Recent  
Conferences  
Program  
Committee (PC)*

**IJCAI**, International Joint Conferences on Artificial Intelligence:  
since 2019

**Awarded Distinguished Program Committee in 2019**

**AAAI**, AAAI Conference on Artificial Intelligence : PC since 2020

**CP**, International Conference on Principles and Practice of  
Constraint Programming: since 2017

**ECAI**, European Conference on Artificial Intelligence: 2016, 2018

**CPAIOR**, International Conference on the Integration of  
Constraint Programming, Artificial Intelligence, and Operations  
Research, 2014, 2016, 2021

*Journals*

Artificial Intelligence, Computing Surveys, Constraints

*Organisation  
Committee*

2020 · **Co-organising & co-chairing the Master Class of the  
CPAIOR'20 Conference**, Vienna, Austria

2019 · Member of the organisation committee of JFPC'19 (the  
French constraint programming conference), Albi, France

*Local Service*

2019 - 2021 · In charge of organising the ROC Seminar Series

2016 - 2018 · In charge of organising the Insight Seminar Series

2012 - 2014 · Representing the PhD. students in the ROC  
research group

## MISCELLANEOUS

*Academic visits*

05/2022 · UQAM, Montréal, Canada, Collaboration with  
Sébastien Gambs and Ulrich Aïvodji

02/2020 · Department of Philosophy, UCC, Cork, Ireland

01/2013 · NICTA, UNSW, Sydney, Australia Cooperation with :  
Nina Narodytska and Toby Walsh

*Research Projects  
participation*

09/2019 - present · Collaborator of the ANITI research chair  
DeepLEVER

2017 - 2018 · UTRC-UCC Cooperation Project

2015 - 2018 · **Science Foundation Ireland**, Grants 12/RC/2289  
and 16/RC/3918, co-funded under the European Regional  
Development Fund

2012 - 2014 · **CNRS, Google**, and Midi-Pyrénées region Grant:  
Conflict Directed Scheduling

Popularization

2013 · The art of “decision making”, Science Festival in  
Toulouse

## SUPERVISION

PhD. 2020-2023 · Co-supervising the PhD of Julien Ferry with Marie  
José Huguet and Sébastien Gambs:

*Privacy, Interpretability, and Fairness in Machine Learning*

2019-2022 · Co-supervising the PhD of Hao Hu with Marie José  
Huguet:

*Declarative Machine Learning*

2016-2019 · **[Graduated]** Co-supervising the PhD of Begum  
Genc with Barry O’Sullivan:

*An Approach to Robustness in Stable Marriage and Stable Roommates  
Problems*

B.S. & M.S. 02/2022 – 08/2022: Julien Rouzot  
05/2020 – 08/2020: Sabine Muzellec  
03/2020 – 09/2020: Maxence Bieres  
02/2019 – 07/2019: Hao Hu  
04/2019 – 10/2019: Hosseim NAHAL  
06/2019 – 09/2019: Julien Ferry

## PUBLICATIONS

### 2023

SATML 2023 Ulrich Aïvodji, Julien Ferry, Sébastien Gambs, Marie-José  
Huguet, and Mohamed Siala. Exploiting fairness to enhance  
sensitive attributes reconstruction. In *First IEEE Conference on  
Secure and Trustworthy Machine Learning, SATML’23, Raleigh, North  
Carolina, USA, 2023*

### 2022

MACHINE  
LEARNING Ulrich Aïvodji, Julien Ferry, Sébastien Gambs, Marie-José  
Huguet, and Mohamed Siala. Improving fairness generalization  
through a sample-robust optimization method. *Machine  
Learning*, 2022

AAAI 2022 Hao Hu, Marie-José Huguet, and Mohamed Siala. Optimizing  
binary decision diagrams with maxsat for classification. In  
*Thirty-Sixth AAAI Conference on Artificial Intelligence, AAAI’22  
2022, 22 February 2022, Vancouver BC, Canada, 2022*

CPAIOR 2022 Ulrich Aïvodji, Julien Ferry, Sébastien Gambs, Marie-José  
Huguet, and Mohamed Siala. Leveraging integer linear  
programming to learn optimal fair rule lists. In *9th International*

*Conference on the Integration of Constraint Programming, Artificial Intelligence, and Operations Research, CPAIOR'22, Los Angeles, California USA, 2022*

## 2021

- CIKM 2021 Ulrich Aïvodji, Julien Ferry, Sébastien Gambs, Marie-José Huguet, and Mohamed Siala. Faircorels, an open-source library for learning fair rule lists. In *30th ACM International Conference on Information and Knowledge Management, CIKM 2021, 1-5 November 2021, Gold Coast, Queensland, Australia, 2021*

## 2020

- IJCAI 2020 Hao Hu, Mohamed Siala, Emmanuel Hebrard, and Marie-José Huguet. Learning optimal decision trees with maxsat and its integration in adaboost. In *Proceedings of the Twenty-Ninth International Joint Conference on Artificial Intelligence, IJCAI 2020*, pages 1170–1176, 2020
- CP 2020 Alexey Ignatiev, Martin C. Cooper, Mohamed Siala, Emmanuel Hebrard, and João Marques-Silva. Towards formal fairness in machine learning. In *Principles and Practice of Constraint Programming - 26th International Conference, CP 2020, Louvain-la-Neuve, Belgium, September 7-11, 2020, Proceedings*, pages 846–867, 2020
- INTERNATIONAL JOURNAL ON ARTIFICIAL INTELLIGENCE TOOLS Mark Antunes, Vincent Armant, Kenneth N. Brown, Daniel A. Desmond, Guillaume Escamocher, Anne-Marie George, Diarmuid Grimes, Mike O’Keeffe, Yiqing Lin, Barry O’Sullivan, Cemalettin Ozturk, Luis Quesada, Mohamed Siala, Helmut Simonis, and Nic Wilson. Assigning and scheduling service visits in a mixed urban/rural setting. *International Journal on Artificial Intelligence Tools*, 29, 2020

## 2019

- CPAIOR 2019 Begum Genc, Mohamed Siala, Gilles Simonin, and Barry O’Sullivan. An approach to robustness in the stable roommates problem and its comparison with the stable marriage problem. In *Integration of Constraint Programming, Artificial Intelligence, and Operations Research - 16th International Conference, CPAIOR 2019, Thessaloniki, Greece, June 4-7, 2019, Proceedings*, pages 320–336, 2019

- INFORMATION PROCESSING LETTERS Mohamed Siala and Barry O’Sullivan. Combinatorial search from an energy perspective. *Information Processing Letters*, 148:23–27, 2019

- THEORETICAL COMPUTER SCIENCE Begum Genc, Mohamed Siala, Gilles Simonin, and Barry O’Sullivan. Complexity study for the robust stable marriage problem. *Theoretical Computer Science*, 775:76–92, 2019

## 2018

- CPAIOR 2018 Guillaume Escamocher, Mohamed Siala, and Barry O’Sullivan. From backdoor key to backdoor completeness: Improving a known measure of hardness for the satisfiable CSP. In *Integration of Constraint Programming, Artificial Intelligence, and Operations Research - 15th International Conference, CPAIOR 2018, Delft, The Netherlands, June 26-29, 2018, Proceedings*, pages 198–214, 2018

ICTAI 2018	Mark Antunes, Vincent Armant, Kenneth N. Brown, Daniel A. Desmond, Guillaume Escamocher, Anne-Marie George, Diarmuid Grimes, Mike O’Keeffe, Yiqing Lin, Barry O’Sullivan, Cemalettin Ozturk, Luis Quesada, Mohamed Siala, Helmut Simonis, and Nic Wilson. Assigning and scheduling service visits in a mixed urban/rural setting. In <i>IEEE 30th International Conference on Tools with Artificial Intelligence, ICTAI 2018</i> , 5-7 November 2018, Volos, Greece, pages 114–121, 2018
<b>2017</b>	
IJCAI 2017	Begum Genc, Mohamed Siala, Barry O’Sullivan, and Gilles Simonin. Finding robust solutions to stable marriage. In <i>Proceedings of the Twenty-Sixth International Joint Conference on Artificial Intelligence, IJCAI 2017</i> , Melbourne, Australia, August 19-25, 2017, pages 631–637, 2017
CP 2017	Mohamed Siala and Barry O’Sullivan. Rotation-based formulation for stable matching. In <i>Principles and Practice of Constraint Programming - 23rd International Conference, CP 2017</i> , Melbourne, VIC, Australia, August 28 - September 1, 2017, <i>Proceedings</i> , pages 262–277, 2017
CPAIOR 2017	Emmanuel Hebrard and Mohamed Siala. Explanation-based weighted degree. In <i>Integration of AI and OR Techniques in Constraint Programming - 14th International Conference, CPAIOR 2017</i> , Padua, Italy, June 5-8, 2017, <i>Proceedings</i> , pages 167–175, 2017
COCOA 2017	Begum Genc, Mohamed Siala, Gilles Simonin, and Barry O’Sullivan. On the complexity of robust stable marriage. In <i>Combinatorial Optimization and Applications - 11th International Conference, COCOA 2017</i> , Shanghai, China, December 16-18, 2017, <i>Proceedings, Part II</i> , pages 441–448, 2017
ICTAI 2017	Danuta Sorina Chisca, Mohamed Siala, Gilles Simonin, and Barry O’Sullivan. New models for two variants of popular matching. In <i>29th IEEE International Conference on Tools with Artificial Intelligence, ICTAI 2017</i> , Boston, MA, USA, November 6-8, 2017, pages 752–759, 2017
<b>2016</b>	
CONSTRAINTS	Nina Narodytska, Thierry Petit, Mohamed Siala, and Toby Walsh. Three generalizations of the FOCUS constraint. <i>Constraints An International Journal</i> , 21(4):495–532, 2016
CPAIOR 2016	Mohamed Siala and Barry O’Sullivan. Revisiting two-sided stability constraints. In <i>Integration of AI and OR Techniques in Constraint Programming - 13th International Conference, CPAIOR 2016</i> , Banff, AB, Canada, May 29 - June 1, 2016, <i>Proceedings</i> , pages 342–357, 2016
<b>2015</b>	
ENGINEERING APPLICATIONS OF ARTIFICIAL INTELLIGENCE	Mohamed Siala, Emmanuel Hebrard, and Marie-José Huguet. A study of constraint programming heuristics for the car-sequencing problem. <i>Engineering Applications of Artificial Intelligence</i> , 38:34–44, 2015
CP 2015	Mohamed Siala, Christian Artigues, and Emmanuel Hebrard.

Two clause learning approaches for disjunctive scheduling. In *Principles and Practice of Constraint Programming - 21st International Conference, CP 2015, Cork, Ireland, August 31 - September 4, 2015, Proceedings*, pages 393–402, 2015

#### 2014

CONSTRAINTS Mohamed Siala, Emmanuel Hebrard, and Marie-José Huguet. An optimal arc consistency algorithm for a particular case of sequence constraint. *Constraints An International Journal*, 19(1):30–56, 2014

CPAIOR 2014 Christian Artigues, Emmanuel Hebrard, Valentin Mayer-Eichberger, Mohamed Siala, and Toby Walsh. SAT and hybrid models of the car sequencing problem. In *Integration of AI and OR Techniques in Constraint Programming - 11th International Conference, CPAIOR 2014, Cork, Ireland, May 19-23, 2014. Proceedings*, pages 268–283, 2014

#### 2013

IJCAI 2013 Nina Narodytska, Thierry Petit, Mohamed Siala, and Toby Walsh. Three generalizations of the FOCUS constraint. In *IJCAI 2013, Proceedings of the 23rd International Joint Conference on Artificial Intelligence, Beijing, China, August 3-9, 2013*, pages 630–636, 2013

#### 2012

CP 2012 Mohamed Siala, Emmanuel Hebrard, and Marie-José Huguet. An optimal arc consistency algorithm for a chain of atmost constraints with cardinality. In *Principles and Practice of Constraint Programming - 18th International Conference, CP 2012, Québec City, QC, Canada, October 8-12, 2012. Proceedings*, pages 55–69, 2012

#### OTHER INFORMATION

<i>Music</i>	Since 2005	Violin player with French, Irish, and Tunisian bands
	2007 - 2010	Manager of the ENSI-Music association, Tunisia
<i>Mountaineering</i>	2018	Hike leader, UCC mountaineering club, Ireland

November 21, 2022