

# Sergio JIMÉNEZ CELORRIO

## PERSONAL DATA

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PLACE AND DATE OF BIRTH: Burgos, Spain. 28 May 1980.  
ADDRESS: Valencian Research Institute for Artificial Intelligence  
Universitat Politècnica de València  
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Valencia (SPAIN).  
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## AREAS OF SPECIALIZATION

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Artificial Intelligence, Automated Planning, Bayesian inference, Machine Learning, Reinforcement Learning

## APPOINTMENTS HELD

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2023-	Profesor Titular <i>Departamento de Sistemas Informáticos y Computación. Universitat Politècnica de València, Spain.</i>
2022-2017	'Ramón y Cajal' post-doctoral research fellow <i>Departamento de Sistemas Informáticos y Computación. Universitat Politècnica de València, Spain.</i>
2017-2016	Post-doctoral research fellow <i>Department of Computing and Information Systems. University of Melbourne, Australia</i>
2016-2013	'Juan de la Cierva' post-doctoral research fellow <i>AI and ML research group. Universitat Pompeu Fabra de Barcelona, Spain.</i>
2013-2004	Teaching assistant <i>Planning and Learning research group. Universidad Carlos III de Madrid, Spain.</i>

## EDUCATION

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2011	<b>PhD</b> in Computer Science, <b>Universidad Carlos III de Madrid</b> , Spain Thesis: "Planning and Learning under Uncertainty"
2004	<b>MSc</b> in Computer Science, <b>Universidad Autónoma de Madrid</b> , Spain
2003	<b>MEd</b> in Maths Education, <b>Universidad Complutense de Madrid</b> , Spain
2002	<b>BSc</b> in Computer Science, <b>Universidad Autónoma de Madrid</b> , Spain

## LANGUAGE SKILLS

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SPANISH:	<i>Mother tongue</i>	ENGLISH:	<i>Fluent</i>
FRENCH:	<i>Basic Knowledge</i>	CATALAN:	<i>Basic Knowledge</i>

## COMPETITIVE RESEARCH GRANTS, AWARDS, AND DISTINCTIONS

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- 2022 Sister Conferences Best Paper, **IJCAI** (Class 1A++ GII-GRIN-SCIE)
- 2017 'Ramón y Cajal' post-doctoral research grant, **Spanish government**
- 2016 Best Paper Award, **IJCAI** (Class 1A++ GII-GRIN-SCIE)
- 2013 'Juan de la Cierva' post-doctoral research grant, **Spanish government**
- 2012 Distinguished Thesis Award, **Universidad Carlos III de Madrid**

## RESEARCH STAYS

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Sep-Dec 2012	NICTA Research Centre of Excellence. Canberra, <b>Australia</b> .
Sep-Dec 2009	MBARI Autonomy Research Group. Santa Cruz, <b>USA</b> .
June-Sep 2006	Strathclyde Planning Group. Glasgow, <b>UK</b> .
March-June 2006	University of York, AI research group. York, <b>UK</b> .

## JOURNAL PAPERS

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1. A Comprehensive Framework for Learning Declarative Action Models. *Diego Aineto, Sergio Jiménez and Eva Onaindia*. **Journal of Artificial Intelligence Research**. 2022.
2. Computing programs for generalized planning using a classical planner. *Javier Segovia-Aguas, Sergio Jiménez and Anders Jonsson*. **Artificial Intelligence Journal**. 2019.
3. Learning action models with minimal observability. *Diego Aineto, Sergio Jiménez and Eva Onaindia*. **Artificial Intelligence Journal**. 2019.
4. A review of generalized planning. *Sergio Jiménez, Javier Segovia-Aguas, and Anders Jonsson*. **Knowledge Engineering Review**. 2019.
5. Computing Hierarchical Finite State Controllers with Classical Planning. *Javier Segovia-Aguas, Sergio Jiménez and Anders Jonsson*. **Journal of Artificial Intelligence Research**. 2018.
6. A common framework for learning causality. *Eva Onaindia, Diego Aineto and Sergio Jiménez*. **Progress in Artificial Intelligence**. 2018.
7. The deterministic part of the seventh International Planning Competition. *Carlos Linares López, Sergio Jiménez, Angel García Olaya*. **Artificial Intelligence Journal**. 2015.
8. Automating the evaluation of planning systems. *Carlos Linares López, Sergio Jiménez, Malte Helmert*. **AI Communications**. 2013.
9. Integrating Planning, Execution, and Learning to Improve Plan Execution. *Sergio Jiménez, Fernando Fernández, Daniel Borrajo*. **Computational Intelligence**. 2013.
10. A Survey of the Seventh International Planning Competition. *Amanda Jane Coles, Andrew Coles, Angel García Olaya, Sergio Jiménez, Carlos Linares López, Scott Sanner, Sungwook Yoon*. **AI Magazine**. 2012.
11. A review of machine learning for automated planning. *Sergio Jiménez, Tomás de la Rosa, Susana Fernández, Fernando Fernández, Daniel Borrajo*. **Knowledge Engineering Review**. 2012.
12. Scaling up Heuristic Planning with Relational Decision Trees. *Tomás de la Rosa, Sergio Jiménez, Raquel Fuentetaja, Daniel Borrajo*. **Journal of Artificial Intelligence Research**. 2011.

## CONFERENCE PAPERS

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1. Computing Programs for Generalized Planning as Heuristic Search. *Javier Segovia-Aguas, Sergio Jiménez and Anders Jonsson*. **IJCAI** 2022. (Class 1A++ GII-GRIN-SCIE)

2. Scaling-up Generalized Planning as Heuristic Search with Landmarks. *Javier Segovia-Aguas, Sergio Jiménez, Laura Sebastiá and Anders Jonsson. SOCS 2022. (Class 3B GII-GRIN-SCIE)*
3. Generalized Planning as Heuristic Search. *Javier Segovia-Aguas, Sergio Jiménez and Anders Jonsson. ICAPS 2021. (Class 2A GII-GRIN-SCIE)*
4. Generalized Temporal Inference via Planning. *Diego Aineto, Sergio Jiménez and Eva Onaindia. KR 2021. (Class 1A+ GII-GRIN-SCIE)*
5. Observation decoding with sensor models: recognition tasks via classical planning. *Diego Aineto, Sergio Jiménez and Eva Onaindia. ICAPS 2020. (Class 2A GII-GRIN-SCIE)*
6. Generalized Planning with Positive and Negative Examples. *Javier Segovia-Aguas, Sergio Jiménez and Anders Jonsson. AAAI 2020. (Class 1A++ GII-GRIN-SCIE)*
7. Learning Temporal Action Models via Constraint Programming. *Antonio Garrido and Sergio Jiménez. ECAI 2020. (Class 2A- GII-GRIN-SCIE)*
8. Model Recognition as Planning. *Diego Aineto, Sergio Jiménez, Eva Onaindia and Miquel Ramírez. ICAPS 2019. (Class 2A GII-GRIN-SCIE)*
9. Learning STRIPS action models with classical planning. *Diego Aineto, Sergio Jiménez and Eva Onaindia. ICAPS 2018. (Class 2A GII-GRIN-SCIE)*
10. Generating Context-Free Grammars using Classical Planning. *Javier Segovia-Aguas, Sergio Jiménez and Anders Jonsson. IJCAI 2017. (Class 1A++ GII-GRIN-SCIE)*
11. Unsupervised learning of planning tasks. *Javier Segovia-Aguas, Sergio Jiménez and Anders Jonsson. ICAPS 2017. (Class 2A GII-GRIN-SCIE)*
12. Hierarchical Finite State Controllers for Generalized Planning. *Javier Segovia-Aguas, Sergio Jiménez and Anders Jonsson. IJCAI 2016. (Class 1A++ GII-GRIN-SCIE)*
13. Automatic Generation of High-Level State Features for Generalized Planning. *Damir Lotinac, Javier Segovia-Aguas, Sergio Jiménez and Anders Jonsson. IJCAI 2016. (Class 1A++ GII-GRIN-SCIE)*
14. Generalized Planning With Procedural Domain Control Knowledge. *Javier Segovia-Aguas, Sergio Jiménez and Anders Jonsson. ICAPS 2016. (Class 2A GII-GRIN-SCIE)*
15. Temporal Planning With Required Concurrency Using Classical Planning. *Sergio Jiménez, Anders Jonsson, Héctor Palacios. ICAPS 2015. (Class 2A GII-GRIN-SCIE)*
16. Computing Plans with Control Flow and Procedures Using a Classical Planner. *Sergio Jiménez, Anders Jonsson. SOCS 2015. (Class 3B GII-GRIN-SCIE)*
17. Optimizing Hidden Markov Models for Ocean Feature Detection. *Sandeep Kumar, Sergio Jiménez, Frederic Py, Deepak Khemani, Kanna Rajan. FLAIRS 2011. (Class 3B- GII-GRIN-SCIE)*
18. The PELA Architecture: Integrating Planning and Learning to Improve Execution. *Sergio Jiménez, Fernando Fernández, Daniel Borrajo. AAAI 2008. (Class 1A++ GII-GRIN-SCIE)*
19. Learning Relational Decision Trees for Guiding Heuristic Planning. *Tomás de la Rosa, Sergio Jiménez, Daniel Borrajo. ICAPS 2008. (Class 2A GII-GRIN-SCIE)*
20. Machine Learning of Plan Robustness Knowledge About Instances. *Sergio Jiménez, Fernando Fernández, Daniel Borrajo. ECML 2005. (Class 2A GII-GRIN-SCIE)*

## RESEARCH PROJECTS (PRINCIPAL INVESTIGATOR)

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1. GV/2019/082: AI for the Automated Synthesis and Validation of Programs. *Funded by the regional government (Generalitat Valenciana).*

## TEACHING

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- 2023-2021 **Automata Theory and Formal Languages (Labs)**  
Course of the Computer Science BSc. Universitat Politècnica de València, Spain.
- 2020-2018 **Automated planning**  
Course of the MSc in Artificial Intelligence. Universitat Politècnica de València. Spain.
- 2020-2017 **Automated planning (Labs)**  
MOOC course of the MSc in Artificial Intelligence. Spanish Association for Artificial Intelligence. Spain.
- 2016-2013 **Software engineering (Labs and seminars)**  
Course of the Computer Science BSc. Universitat Pompeu Fabra. Barcelona, Spain.
- 2012-2008 **Artificial Intelligence (Labs and seminars)**  
Course of the Computer Science BSc. Universidad Carlos III de Madrid, Spain.
- 2008-2004 **Programming (Labs and seminars)**  
Course of the Computer Science BSc. Universidad Carlos III de Madrid, Spain.

## OTHER ACADEMIC ACTIVITIES

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- 2021, 2020 **Senior Program Committee** at the International Joint Conference on Artificial Intelligence (**IJCAI**). (*Class 1A++ GII-GRIN-SCIE*)
- 2022, 2019 - 2015 **Program Committee** at the International Joint Conference on Artificial Intelligence (**IJCAI**). (*Class 1A++ GII-GRIN-SCIE*)
- 2022 - 2020 **Program Committee** at the AAAI Conference on Artificial Intelligence (**AAAI**). (*Class 1A++ GII-GRIN-SCIE*)
- 2023 - 2017 **Program Committee** at the International Conference on Automated Planning and Scheduling (**ICAPS**). (*Class 2A GII-GRIN-SCIE*)
- 2022 - 2020 **Program Committee** at the International Workshop on Generalization in Planning (**IJCAI22, IJCAI21, AAAI20**).
- 2018 - 2016 **Program Committee** at the International Symposium on Combinatorial Search (**SOCS**). (*Class 3B GII-GRIN-SCIE*)
- 2013 **Invited Speaker** at the Summer School of ICAPS 2013. Perugia, Italy. Talk titled 'Hands-On Planning: Evaluating planners'.
- 2013, 2011, 2009 **Co-organizer** of 3 editions of the International Workshop on Planning and Learning (ICAPS-2013, ICAPS-2011 and ICAPS-2009).
- 2011 **Co-organizer** of the 7<sup>th</sup> International Planning Competition at ICAPS
- ANECA (Spanish agency for quality assessment) positive evaluation for "Titular de Universidad" and for *MINECO I3 Program*.
  - Supervised PhD. *Inference and Learning with Planning Models*. UPV 2022. Diego Aineto (Cum Laude)
  - Two 6-Year periods of recognized research activity (Spanish government)
  - General quality indicators of scientific research: **981 citations** (610 since 2018) and **h-index 18**. Source *google scholar*.