

Sergio JIMÉNEZ CELORRIO

PERSONAL DATA

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

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

APPOINTMENTS HELD

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

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

LANGUAGE SKILLS

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

- 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

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

JOURNAL PAPERS

1. Generalized Planning as Heuristic Search: A new planning search-space that leverages pointers over objects. *Javier Segovia-Aguas, Sergio Jiménez and Anders Jonsson.* **Artificial Intelligence Journal.** 2024.
2. A Comprehensive Framework for Learning Declarative Action Models. *Diego Aineto, Sergio Jiménez and Eva Onaindia.* **Journal of Artificial Intelligence Research.** 2022.
3. Computing programs for generalized planning using a classical planner. *Javier Segovia-Aguas, Sergio Jiménez and Anders Jonsson.* **Artificial Intelligence Journal.** 2019.
4. Learning action models with minimal observability. *Diego Aineto, Sergio Jiménez and Eva Onaindia.* **Artificial Intelligence Journal.** 2019.
5. A review of generalized planning. *Sergio Jiménez, Javier Segovia-Aguas, and Anders Jonsson.* **Knowledge Engineering Review.** 2019.
6. Computing Hierarchical Finite State Controllers with Classical Planning. *Javier Segovia-Aguas, Sergio Jiménez and Anders Jonsson.* **Journal of Artificial Intelligence Research.** 2018.
7. A common framework for learning causality. *Eva Onaindia, Diego Aineto and Sergio Jiménez.* **Progress in Artificial Intelligence.** 2018.
8. The deterministic part of the seventh International Planning Competition. *Carlos Linares López, Sergio Jiménez, Angel García Olaya.* **Artificial Intelligence Journal.** 2015.
9. Automating the evaluation of planning systems. *Carlos Linares López, Sergio Jiménez, Malte Helmert.* **AI Communications.** 2013.
10. Integrating Planning, Execution, and Learning to Improve Plan Execution. *Sergio Jiménez, Fernando Fernández, Daniel Borrajo.* **Computational Intelligence.** 2013.
11. 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.
12. A review of machine learning for automated planning. *Sergio Jiménez, Tomás de la Rosa, Susana Fernández, Fernando Fernández, Daniel Borrajo.* **Knowledge Engineering Review.** 2012.
13. 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

1. Synthesis of Procedural Models for Deterministic Transition Systems. *Javier Segovia-Aguas, Jonathan Ferrer-Mestres and Sergio Jiménez*. **ECAI**. 2023. (Class 2A- GII-GRIN-SCIE)
2. Computing Programs for Generalized Planning as Heuristic Search. *Javier Segovia-Aguas, Sergio Jiménez and Anders Jonsson*. **IJCAI** 2022. (Class 1A++ GII-GRIN-SCIE)
3. 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)
4. Generalized Planning as Heuristic Search. *Javier Segovia-Aguas, Sergio Jiménez and Anders Jonsson*. **ICAPS** 2021. (Class 2A GII-GRIN-SCIE)
5. Generalized Temporal Inference via Planning. *Diego Aineto, Sergio Jiménez and Eva Onaindia*. **KR** 2021. (Class 1A+ GII-GRIN-SCIE)
6. Observation decoding with sensor models: recognition tasks via classical planning. *Diego Aineto, Sergio Jiménez and Eva Onaindia*. **ICAPS** 2020. (Class 2A GII-GRIN-SCIE)
7. Generalized Planning with Positive and Negative Examples. *Javier Segovia-Aguas, Sergio Jiménez and Anders Jonsson*. **AAAI** 2020. (Class 1A++ GII-GRIN-SCIE)
8. Learning Temporal Action Models via Constraint Programming. *Antonio Garrido and Sergio Jiménez*. **ECAI** 2020. (Class 2A- GII-GRIN-SCIE)
9. Model Recognition as Planning. *Diego Aineto, Sergio Jiménez, Eva Onaindia and Miquel Ramírez*. **ICAPS** 2019. (Class 2A GII-GRIN-SCIE)
10. Learning STRIPS action models with classical planning. *Diego Aineto, Sergio Jiménez and Eva Onaindia*. **ICAPS** 2018. (Class 2A GII-GRIN-SCIE)
11. Generating Context-Free Grammars using Classical Planning. *Javier Segovia-Aguas, Sergio Jiménez and Anders Jonsson*. **IJCAI** 2017. (Class 1A++ GII-GRIN-SCIE)
12. Unsupervised learning of planning tasks. *Javier Segovia-Aguas, Sergio Jiménez and Anders Jonsson*. **ICAPS** 2017. (Class 2A GII-GRIN-SCIE)
13. Hierarchical Finite State Controllers for Generalized Planning. *Javier Segovia-Aguas, Sergio Jiménez and Anders Jonsson*. **IJCAI** 2016. (Class 1A++ GII-GRIN-SCIE)
14. 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)
15. Generalized Planning With Procedural Domain Control Knowledge. *Javier Segovia-Aguas, Sergio Jiménez and Anders Jonsson*. **ICAPS** 2016. (Class 2A GII-GRIN-SCIE)
16. Temporal Planning With Required Concurrency Using Classical Planning. *Sergio Jiménez, Anders Jonsson, Héctor Palacios*. **ICAPS** 2015. (Class 2A GII-GRIN-SCIE)
17. Computing Plans with Control Flow and Procedures Using a Classical Planner. *Sergio Jiménez, Anders Jonsson*. **SOCS** 2015. (Class 3B GII-GRIN-SCIE)
18. 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)
19. The PELA Architecture: Integrating Planning and Learning to Improve Execution. *Sergio Jiménez, Fernando Fernández, Daniel Borrajo*. **AAAI** 2008. (Class 1A++ GII-GRIN-SCIE)
20. Learning Relational Decision Trees for Guiding Heuristic Planning. *Tomás de la Rosa, Sergio Jiménez, Daniel Borrajo*. **ICAPS** 2008. (Class 2A GII-GRIN-SCIE)
21. 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)

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

TEACHING

2024-2021	Automata Theory and Formal Languages 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 MOOC course of the MSc in Artificial Intelligence. Spanish Association for Artificial Intelligence. Spain.
2016-2013	Software engineering Course of the Computer Science BSc. Universitat Pompeu Fabra. Barcelona, Spain.
2012-2008	Artificial Intelligence Course of the Computer Science BSc. Universidad Carlos III de Madrid, Spain.
2008-2004	Programming Course of the Computer Science BSc. Universidad Carlos III de Madrid, Spain.

OTHER ACADEMIC ACTIVITIES

- 2024 **Program Committee** at the International Workshop on Knowledge Engineering for Planning and Scheduling (**ICAPS24**).
- 2023 - 2020 **Program Committee** at the International Workshop on Generalization in Planning (**NIPS23, IJCAI22, IJCAI21, AAAI20**).
- 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*)
- 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 7th 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: **1172 citations** (720 since 2019) and **h-index 19**. Source *google scholar*.