

Carmen AMO ALONSO

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RESEARCH INTERESTS

- Robust and Distributed Optimal Control, Convex Optimization, Parallel Programming.
- Mathematical Linguistics, Computational Linguistics.

EDUCATION

California Institute of Technology <i>Ph.D. in Control and Dynamical Systems</i>	Pasadena, CA 2017 – Present
– <i>Advisor:</i> John C. Doyle	
– <i>Thesis topic:</i> “Distributed and Localized Model Predictive Control and its applications to extending Flux Balance Analysis”	
California Institute of Technology <i>M.Sc. in Space Engineering</i>	Pasadena, CA 2016 – 2017
Polytechnic University of Madrid <i>B.Sc. in Aerospace Engineering</i>	Madrid, Spain 2012 – 2016

SELECTED RESEARCH EXPERIENCE

Control and Dynamical Systems, California Institute of Technology <i>Graduate Research Assistant with Dr. John Doyle</i>	Pasadena, CA 2017 – Present
Space Propulsion Laboratory, Massachusetts Institute of Technology <i>Undergraduate Research Assistant with Dr. Manuel Martinez-Sanchez</i>	Cambridge, MA Winter 2016
Applied Mathematics Department, Polytechnic University of Madrid <i>Undergraduate Research Assistant with Dr. Ignacio Gomez</i>	Madrid, Spain 2015-2016
Computational Mechanics Group, California Institute of Technology <i>Undergraduate Research Assistant with Dr. Michael Ortiz</i>	Pasadena, CA Summer 2015
Turbocharger Research Group, Imperial College of London <i>Undergraduate Research Assistant with Dr. Ricardo Martinez-Botas</i>	London, UK Summer 2014

TEACHING AND MENTORING EXPERIENCE

Undergraduate and Graduate Mentoring, California Institute of Technology <i>Mentor of graduate student Fengjun Yang</i> <i>Certificate of Interest in Undergraduate Research Mentoring</i> <i>Mentor of undergraduate summer student Sabina Gutheim</i>	Pasadena, CA Spring 2021 Spring 2020 Summer 2019
Undergraduate and Graduate Teaching, California Institute of Technology <i>Teaching Assistant of CDS 141 (Network Control Systems)</i> <i>Teaching Assistant of CDS 231 (Robust Control Theory)</i> <i>Head of Teaching Assistants of ACM 95/100 (Introductory Methods of Applied Mathematics)</i>	Pasadena, CA Spring 2021 Winter 2020 Winter 2019

SELECTED HONORS AND AWARDS

Amazon AI4Science Fellowship	2020
D.E. Shaw Exploration Fellowship	2019
Foster and Coco Stanback Fellowships in Engineering and Applied Science	2016
UPM-MIT Exchange Fellowship	2016
Undergraduate Research Collaboration Fellowship - <i>Awarded by the Department of Education of Spain</i>	2015
Summer Undergraduate Research Fellowship - <i>Awarded by California Institute of Technology</i>	2015
Undergraduate Researcher Fellowship - <i>Awarded by Polytechnic University of Madrid</i>	2015
Undergraduate Research Opportunity Program - <i>Awarded by Imperial College London</i>	2014
Gold Medal at the XXV Competition of Young Researchers in Spain	2012
University Access Exam Excellence Award - <i>Awarded by the Department of Education of Madrid</i>	2012

CONFERENCE PUBLICATIONS

- [C1] **C. Amo Alonso** and S.-H. Tseng, "Effective GPU Parallelization of Distributed and Localized Model Predictive Control," in Submitted to *Proceedings of the 60th IEEE Conference on Decision and Control*. IEEE, 2021
- [C2] **C. Amo Alonso**, J. S. Li, N. Matni, and J. Anderson, "Robust Distributed and Localized Model Predictive Control," in Submitted to *Proceedings of the 60th IEEE Conference on Decision and Control*. IEEE, 2021
- [C3] J. S. Li, **C. Amo Alonso**, and J. C. Doyle, "Frontiers in Scalable Distributed Control: SLS, MPC, and beyond," in *Proceedings of the 2021 IEEE American Control Conference*. IEEE, 2021
- [C4] **C. Amo Alonso**, N. Matni, and J. Anderson, "Explicit Distributed and Localized Model Predictive Control via System Level Synthesis," in *Proceedings of the 59th IEEE Conference on Decision and Control*. IEEE, 2020
- [C5] **C. Amo Alonso** and N. Matni, "Distributed and Localized Model Predictive Control via System Level Synthesis," in *Proceedings of the 59th IEEE Conference on Decision and Control*. IEEE, 2020
- [C6] S.-H. Tseng, **C. Amo Alonso**, and S. J. Han, "System Level Synthesis via Dynamic Programming," in *Proceedings of the 59th IEEE Conference on Decision and Control*. IEEE, 2020
- [C7] **C. Amo Alonso**, D. Ho, and J. M. Maestre, "Distributed linear quadratic regulator robust to communication dropouts," in *Proceedings of the 21st World Congress of the International Federation of Automatic Control*. IFAC, 2020
- [C8] N. Olsman, **C. Amo Alonso**, and J. C. Doyle, "Architecture and trade-offs in the heat shock response system," in *Proceedings of the 57th IEEE Conference on Decision and Control*. IEEE, 2018

ACADEMIC SERVICE

Peer Reviewer

IEEE Conference on Decision and Control, IEEE American Control Conference, IEEE Transactions on Automatic Control