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RESEARCH INTEREST

- [Google Scholar](#)- [Website](#)
- Control theory
- Time delay systems
- System dynamics
- Low-order controllers
- Delay-based controllers

PROFESSIONAL EXPERIENCE

Postdoctoral Researcher

KU Leuven NUMA - Numerical Analysis and Applied Mathematics Center

EDUCATION

PhD in Systems and Control Sciences (Paris-Saclay) and PhD in Electrical Engineering (UASLP)
UASLP - Laboratoire des Signaux et Systèmes (L2S), CentraleSupélec

- **Thesis:** *Low-Order Controllers for Time-Delay Systems: Singularities and Implementation Issues*
 - **Advisors:** Dr. Silviu-Iulian Niculescu and Dr. Fernando Méndez Barrios
 - Jury:
 - ✱ President: Sabine Mondie
 - ✱ Referees: Rifat Sipahi, Hitay Ozbay
 - ✱ Examiners: Wim Michiels, Tomas Vyhldal, Martha Belem Saldivar Márquez, Raul Eduardo Balderas Navarro, plus local UASLP committee.

Master's Degree in Electrical Engineering (2019–2021, GPA: 9.6/10)
UASLP

- **Thesis:** *Analytical Design of the Maximum Exponential Decay Rate for a Class of Time-Delay Systems via PI Controllers*
- **Achievements:**
 - Ranked 1st in the class.
 - Graduated with honors.
- **Description:** The research optimized the decay rate of first-order time-delay systems using PI controllers.

Bachelor's Degree in Electronics Engineering (2014–2019, GPA: 9.1/10)
UASLP

- **Achievements:**

- Graduated with honors.

Exchange Program in General Engineering (2017–2018)
École Centrale de Lyon

- Completed one year of general engineering studies through the MEXFITEC academic excellence scholarship.

TEACHING

Lecturer at Universidad Autónoma de San Luis Potosí (2022) Spanish

- Applied Mathematics.
- Linear Algebra (tutorial classes for the graduate program)

Lecturer at Universidad del Valle de México (2021-2022) Spanish

- Information Technologies.

Lecturer at Bioprepa ABC (2021-2022) Spanish

- Informatics.
- Differential Calculus.
- Mathematics.
- Physics.

Lecturer at ESIEE France (2024) French

- Linear Control Theory (tutorial classes).
- Linear Control Theory (laboratory).

Lecturer at CentraleSupélec France (2024) English

- Automatic Control (tutorial classes).
- Automatic Control (laboratory).

LANGUAGES

- Spanish: Native
- English: Fluent
- French: Fluent
- Italian: Beginner
- Portuguese: Beginner

TECHNICAL SKILLS

Coding and IT

- Matlab and Simulink
- Mathematica
- Python
- C/C++
- Linux systems

PhD Thesis Related

Journal Articles

- Méndez-Barrios, C.-F., **Torres-García, J.-D.**, and Niculescu, S.-I. (2024), Delay-difference approximations of PD-controllers. Improperly-posed systems in multiple delays case, Int. J. Robust Nonlinear Control.
- Mazenc, F., Niculescu, S.-I., **Torres-García, D.** (2024), Stability analysis for linear systems with a switched rapidly varying delay, Automatica.
- **Torres-García, D.**, Méndez-Barrios, C.-F., and Niculescu, S.-I. (2024), Stabilization of second-order non-minimum phase system with delay via PI controllers. Spectral abscissa optimization, IEEE Access.

Journal Articles to be Submitted

- **Torres-García, D.**, Méndez-Barrios, C.-F., Guel-Cortez, A. J., and Hernández-Gallardo J.-A. (2025) Stabilization of a Fractional μ -Order Systems via PI Controllers,
- Hernández-Gallardo J.-A., Méndez-Barrios, **Torres-García, D.**, and González-Galvan E.-J. (2025) Proportional Delayed Integral Controller for Stabilizing Second-Order Non-Minimum Phase Systems.

Conferences

- **Torres-García, D.**, Méndez-Barrios, F., Niculescu, S.-I., Martínez-González, A. (2022, November). Delay-difference approximation of pd-controllers. insights into improperly-posed closed-loop systems, in IFAC-PapersOnLine 55(40), 79–85.
- **Torres-García, D.**, Méndez-Barrios, F., Niculescu, S.-I. (2023, June). Some Remarks on the Implementation of a Derivative Action via a Delay-Difference Approximation. ECC 2023 - European Control Conference, European Control Association.
- **Torres-García, D.**, Méndez-Barrios, F., Niculescu, S.-I. (2024, June). Impact of Delay-Difference Approximation on PID Controllers: Stability and Performance Insights. In 2024 32nd Mediterranean Conference on Control and Automation (MED) (pp. 616-621). IEEE.
- **Torres-García, D.**, Barrios, C. F. M., Niculescu, S. I., Hernández-Gómez, M. (2024, July). PI Control for Optimal Spectral Abscissa in General Non-Minimum Phase Systems with Time Delay. In CoDIT 2024-10th International Conference on Control, Decision and Information Technologies.
- **Torres-García, D.**, Méndez-Barrios, C. F., and Niculescu, S. I. (2024, September). Insights into the Stabilization of a Chain of Integrators via Delay-Difference Approximations. In IFAC Workshop on Time Delay Systems 2024.

Book Chapters

- **Torres-García, D.**, Hernández-Gallardo J.-A., Méndez-Barrios, F., Niculescu, S.-I. (2024, March) Exploring Delay-Based Controllers. A Comparative Study for Stabilizing Angular Positioning. In: Cardona, M.N., Baca, J., Garcia, C., Carrera, I.G., Martinez, C. (eds) Advances in Automation and Robotics Research. LACAR 2023. Lecture Notes in Networks and Systems

Other Publications

- **Torres-García, D.**, Méndez-Barrios, F., Ramírez, A. (2021, October). Maximum exponential decay rate for first-order time-delay systems with PI controllers. *Advances in Automation and Robotics Research* (pp. 34-42). Springer, Cham.
- Guel-Cortez, A. J., Méndez-Barrios, C. F., **Torres-García, D.**, Félix, L. (2022, December). Further Remarks on Irrational Systems and Their Applications. In *The 5th Mexican Workshop on Fractional Calculus*.

OTHER ACTIVITIES

- Seminars organization:
 - GISRe, Mexican seminar on time-delay systems, since 2023:
<https://sites.google.com/view/gjsr>
 - Séminaire d'Automatique du Plateau de Saclay, since 2024:
<https://icode-seminars.github.io/>
- Peer reviewing:
 - (Journal) *Applied Mathematics and Computation*.
 - *Kybernetika: International Journal of Institute of Information Theory and Automation*.
 - *Journal of Difference Equations and Applications*.
 - Several international conferences.