

EDUCATION

Department of Aerospace Engineering and Applied Mechanics, Tongji University Shanghai, China

D.Eng. in Mechanics

2024 - 2028 (*expected*)

- Advisor: Prof. Ying Zhao

- Research area: Computational Mechanics

Department of Aerospace Engineering, Nanjing University of Aeronautics and Astronautics Nanjing, China

M.Eng. in Mechanics

2021 - 2024

- Advisor: Prof. Huiyu Sun

- Research area: Shape memory polymer composites

Department of Mechanical Engineering, National Technological Institute of Mexico Yucatan, Mexico

B.Eng. in Mechanical Engineering

2014 - 2019

- Advisor: Prof. Pedro J. Herrera-Franco

JOURNAL PUBLICATIONS

1. Jinlong Zhou, Wencheng Pan, Chentong Gao, Jesus A. Rodriguez-Morales, and Huiyu Sun. “Structural Design and Mechanical Performance of Novel Low-Poisson’s-Ratio Airship Envelope Materials”. *Scientia Sinica Physica, Mechanica & Astronomica*. Accepted. (In Chinese)
2. Hao Duan, Jianping Gu, Huiyu Sun, Hao Zeng, and Jesus A. Rodriguez-Morales. “A thermodynamic constitutive model based on uncoupled physical mechanisms for polymer-based shape memory composites and its application in 4D printing”. *Applied Mathematical Modelling*, vol. 141, p. 115926, May 2025. 10.1016/j.apm.2025.115926
3. Jesus A. Rodriguez-Morales, Chentong Gao, and Huiyu Sun. “Tensile strength prediction of fiber-reinforced polymer composites through layered interphase and chemical bonding: A semi-empirical micromechanical model”. *European Journal of Mechanics A/Solids*, vol. 111, p. 105533, May-June 2025. 10.1016/j.euromechsol.2024.105533
4. Hao Duan, Huiyu Sun, Jesus A. Rodriguez-Morales, and Xinyuan Bai. “Insight into the synergistic-relaxation effects in amorphous polymer: Thermodynamic modeling, multi-physics simulation and application in 4D printing”. *Polymer*, vol. 315, p. 127786, Dec. 2024. 10.1016/j.polymer.2024.127786
5. Jesus A. Rodriguez-Morales, Hao Duan, Jianping Gu, Hao Zeng, Huiyu Sun. “Insight into constitutive theories of 4D printed polymer materials: A review”. *Smart Materials and Structures*, vol. 33, no. 7, p. 073005, June 2024. 10.1088/1361-665X/ad523c

CONFERENCE PROCEEDINGS

1. Viviana Lorena Robalino Espinoza, and Jesus A. Rodriguez-Morales. “Modeling specular and dispersive multipath propagation in on-chip wireless communication channels”. *Proceedings of the 13th International Academic Conference for Graduates*, NUAA, p. 273-279, Nov. 2025.
2. Jesus A. Rodriguez-Morales, Chentong Gao, Jinlong Zhou, Viviana Lorena Robalino Espinoza. “El rol de algoritmos de aprendizaje automático en la inferencia de relaciones constitutivas y parámetros de impresión de materiales poliméricos impresos en 4D: Una descripción general”. *Proceedings of the National Congress of Space Activities (CONACES)*, p. 45-55, Nov. 2024. (In Spanish)

**AWARDS
AND
HONORS**

- **Shanghai Government Scholarship (A)**, Tongji University 2024.09
- **Best Presentation**, “Zhi-Hong” International Summer School at SJTU 2022.06
- **Chinese Government Scholarship**, Ministry of Science and Technology 2021.09
- **FUNED-Santander Fellowship**, FUNED 2019.05

SKILLS

Languages: Spanish, English.

Programming: Python (Numpy, Pandas, FEniCS, Matplotlib).

**ACADEMIC
SERVICES**

Reviewer for: *Materials Research Express*,
Engineering Research Express,
Physica Scripta,
Smart Materials and Structures,
European Journal of Physics.

ORGANIZATIONS

Chinese Society of Theoretical and Applied Mechanics (CSTAM)