



Juan Horacio Pacheco Sánchez

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Academic training:

- PhD in Science and Engineering (Materials). UAM-A 2004.
- MSc Physics FC UNAM 1987.
- Physicist FC-UNAM 1982.

Research projects:

- Molecular Simulation for materials designing of renewable energy:
 - a) Fuel cells
 - b) Lithium batteries
 - c) Hydrogen storage
 - d) Water cleaning.

Distinctions:

- National Researcher SNI II
- Desirable Profile PROMEP
- Who's Who in Science and Engineering, (11th Edition)
- Who's Who Global Expert in Physical Chemistry 2015
- Medal of University Merit awarded by UAM-A
- Visiting Research Scholar, University of Illinois at Chicago USA
- Numerary Researcher I-2 at IMP.

Recent Publications:

- A Vera-Garcia, JH Pacheco-Sanchez, FJ Isidro-Ortega, A Gonzalez-Ruiz, “Theoretical study of catalytic performance of X-γ-Graphyne as cathodes for lithium-air batteries” *Computational and Theoretical Chemistry* 1248 (2025) 115197
- JH Pacheco-Sánchez, AV García, LAD Guzmán, IP Zaragoza, “Calibrating density functionals with DMol3 applied on lithium oxide battery” *Revista Mexicana de Física* 71 (2025) 010402 1–11-010402 1–11
- LA Desales Guzmán, JH Pacheco-Sánchez, E. Vazquez-Rivas, “Enhanced hydrogen adsorption of Zeolite Templated Carbon via chemical activation:” *DFT study. Fuel* 379 (2025) 133080
- L. A. Desales-Guzmán, E. Vázquez-Rivas, **J. H. Pacheco-Sánchez**. “Ab Initio Study on the Potential of Metal-Decorated Pristine and Activated Carbyne for Hydrogen Storage Applications” *Energy & Fuels* 2023, 37, 16, 12400–12415 <https://doi.org/10.1021/acs.energyfuels.3c01559>
- F. J. Isidro-Ortega, J. H. Pacheco-Sánchez, L. A. Desales-Guzmán “Hydrogen storage on lithium decorated zeolite templated carbon, DFT study” *International Journal of Hydrogen Energy* 42 (2017) 30704- 30717 <https://doi.org/10.1016/j.ijhydene.2017.10.098>
- J.H. Pacheco-Sánchez, Bravo A., Novaro O., “An ab initio study of platinum hydrogen interaction” *Revista Mexicana de Física* 52 (5), (2006) 394-397.
- J. H. Pacheco Sánchez, R. D. Vera-Torres, R. Alejo “Bayesian learning on discrete systems of two clases” *International Journal of Pattern Recognition and Artificial Intelligence* 32 (2018) 1860013 <https://doi.org/10.1142/S0218001418600133>

Invited Talks:

- Pacheco Sánchez J.H. “Efecto de la temperatura en asfaltenos.” Facultad de Minas de la Universidad de Medellín, Colombia. Febrero, 2018.
- Pacheco-Sanchez J.H., Mora-Zarco K “Pt(3D,1S) – O₂ Interaction by ab initio calculations” EMN Meeting on Computation and Theory. Las Vegas NV, USA, 10-14 October 2016.
- Pacheco-Sanchez J.H., Pacheco-Blas M.A. “Nonadiabatic Transitions at the singlet lowest states of NiH₂.” EMN Meeting on Computation and Theory. Estambul, Turquía, 9-11 November 2015.