Heriberto Hernández

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Education and Training

Purdue University

Postdoctoral Research Associate, July 2006 to June 2008
Advisor: R. Graham Cooks, NAS

Purdue University, West Lafayette, IN

PhD in Physical Chemistry, GPA 4.0, Aug. 2001 to June 2006
Advisor: Joseph S. Francisco, NAS

University of Puerto Rico at Mayagüez

Post-Bac in Surface Science, January 2007 to May 2001
Advisor: Miguel E. Castro
BS in Chemistry and Math, May 2006

Faculty Appointments

Department of Chemistry, Grinnell College

Professor, August 2023 to present.
Department Chair, June 2022 to present.
Associate Professor, August 2016 to July 2023
Assistant Professor, August 2010 to July 2016
Visiting Assistant Professor, August 2009 to May 2010
CFD Teaching Postdoctoral Fellow, August 2008 to May 2009

Professional Boards and Service

Frontiers in Chemistry and Frontiers in Physics

Reviewer Editor, March 2023 to present.
(https://loop.frontiersin.org/people/1257615/overview)

Committee on Environment and Sustainability, American Chemical Society

Member, January 2023 to present.
(https://www.acs.org/about/governance/committees/environmental-improvement.html)

External Advisory Board for Diversity, Department of Chemistry, Purdue University

Board member, January 2019 to present.

ACS Midwest Regional Meeting 2022, Iowa City, IA

Chair of Arrangements, May 2021 to October 2022

Midstate Consortium for Math and Science

Board member, August 2010 to May 2013

Teaching and Research

Physical Chemistry, Computational Chemistry, Nanomaterials, Zeolites, Excited State Density Functional Theory, Mass Spectrometry

Grants and Fellowships

US Department of Energy

Grant Title: Fundamental studies of the influence of ligands on the molecular structure of noble metal nanoclusters

$717,876, PI: Heriberto Hernandez, Co-PI: Grant Johnson (2025 - 27)

US Department of Energy, Office of Workforce Development for Teachers and Scientists

Grant Title: Soft-Landing and Characterization of size-selective gold nanoclusters

$25,000, PI: Heriberto Hernandez, Co-PI: Grant Johnson (2018)

US Department of Energy, Office of Workforce Development for Teachers and Scientists

Grant Title: Synthesis and Characterization of size-selective Au-Ag alloy nanoparticles

$25,000, PI: Heriberto Hernandez, Co-PI: Julia Laskin (2017)

Ruth Ann Hendrickson fellowship, Department of Biochemistry, University of Iowa

$6,000, Project Title: Ab Initio parametrization of Br for AMOEBA force field (2015)

Henry B. Hass fellowship, Department of Chemistry, Purdue University

$4,800, (2003)

Merck Travel Award, Department of Chemistry, Purdue University

$1,000, Best Physical/Analytical 2nd year Graduate Student, (2002)

Recent Publications (Grinnell College undergraduate students are underlined)

- S. Reed and **H. Hernández*,** Characterization of the Effects of Ligands on Bonding and σ-aromaticity of Small Platinum Nanoclusters. ***Journal of Physical Chemistry A* 2023, *127, 4237 – 4244*.**
- M.R. Ligare, K. A. Morrison, M.A. Hewitt, J.U. Reveles, N. Govind, **H. Hernández**, E.S. Baker, B.H. Clowers, J. Laskin, and G.E. Johnson*. Ion Mobility Spectrometry Characterization of the Intermediate Hydrogen-Containing Gold Cluster Au7(PPh3)7H52+, ***J. Phys. Chem. Lett.* 2021, *12, 2502−2508.***
- M. A. Hewitt, **H. Hernández** and G.E. Johnson*. ESI-MS Identification of the Cationic Phosphine-Ligated Gold Clusters Au1−22: Insight into the Gold−Ligand Ratio and Abundance of Larger Clusters. ***J. Am. Soc. Mass Spectrom.* 2021, *32, 1, 237–246.***
- M. A. Hewitt, **H. Hernández*** and G.E. Johnson*. Light Exposure Promotes Degradation of Intermediates and Growth of Phosphine-Ligated Gold Clusters. ***J. Phys. Chem. C* 2020, *124, 5, 3396–3402.***
- A. Parrish, M. King, M. Ligare, G.E. Johnson and **H. Hernández*.** Role of sterics in phosphine-ligated gold clusters. ***Phys. Chem. Chem. Phys.*, 2019. *21, 1689.***