



**Sistema Integral de Información Académica**  
**Coordinación de Planeación, Evaluación y**  
**Simplificación de la Gestión Institucional**  
**Reporte individual**



**ALEJANDRO HEREDIA BARBERO**

## Datos Generales

**Nombre:** ALEJANDRO HEREDIA BARBERO

**Máximo nivel de estudios:** POSDOCTORADO

**Antigüedad académica en la UNAM:** 12 años

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## Nombramientos

**Vigente:** INVESTIGADOR TITULAR A TC Definitivo  
Instituto de Ciencias Nucleares  
Desde 01-02-2020

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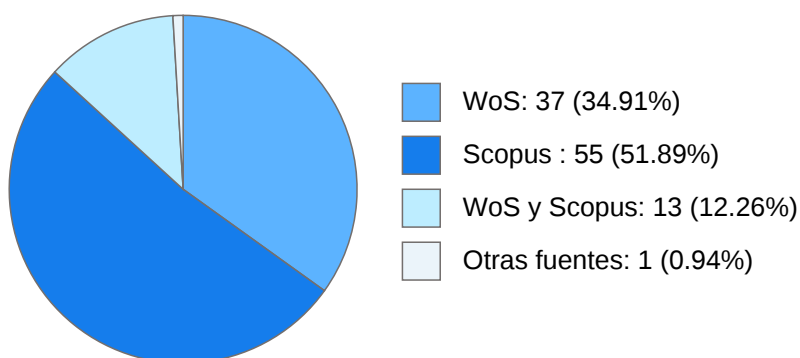
## Estímulos, programas, premios y reconocimientos

SNI IIVIGENTE  
SNI I 2023 - 2024  
SNI II 2022  
SNI II 2018 - 2021  
SNI I 2015 - 2017  
PRIDE C 2019 - 2024  
EQUIVALENCIA PRIDE B 2014 - 2019

**ALEJANDRO HEREDIA BARBERO**

**DOCUMENTOS EN REVISTAS**

**Histórico de Documentos**



| # | Título                                                                                                                                       | Autores                                                                                        | Revista                                  | Año  |
|---|----------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|------------------------------------------|------|
| 1 | Metal-ligand interface effect in the chirality transfer from <sc>I</sc>- and <sc>d</sc>-glutathione to gold, silver and copper nanoparticles | ANDRES FELIPE ALVAREZ GARCIA<br>LAZARO HUERTA ARCOS PAOLA<br>MOLINA SEVILLA et al.             | Nanoscale<br>Advances                    | 2025 |
| 2 | Fomentando el Análisis Químico in situ en un Centro de Cultura y Conservación                                                                | JORGE ARMANDO CRUZ CASTAÑEDA<br>ALICIA NEGRON MENDOZA SERGIO<br>AGUSTIN RAMOS BERNAL et al.    | Educación<br>Química                     | 2024 |
| 3 | Gamma irradiation of adenine and guanine adsorbed into hectorite and attapulgite                                                             | ADRIANA LETICIA MELENDEZ LOPEZ<br>JORGE ARMANDO CRUZ CASTAÑEDA<br>ALICIA NEGRON MENDOZA et al. | Heliyon                                  | 2023 |
| 4 | Impact of M Dwarfs Ultraviolet Radiation on Prebiotic Chemistry: The Case of Adenine                                                         | ANTIGONA SEGURA PERALTA<br>ALEJANDRO HEREDIA BARBERO M.<br>Zulema Armas-Vazquez et al.         | Astrobiology                             | 2023 |
| 5 | CHIRALITY IN NATURAL SCIENCES: AN APPROACH AT DIFFERENT SCALES                                                                               | FERNANDA CITLAME FRANCO<br>RODRIGUEZ ALEJANDRO HEREDIA<br>BARBERO YASMIN REYES MEDINA et al.   | GRANJA-REVISTA DE CIENCIAS<br>DE LA VIDA | 2023 |

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| 6  | A COMPARISON OF THE SPECTROSCOPIC AND THERMODYNAMIC PROPERTIES OF CHLOROPHYLLS AND BACTERIOCHLOROPHYLLS WITH AN EVOLUTIONARY PERSPECTIVE                          | ALEJANDRO HEREDIA BARBERO<br>Franco F.C. Montoya L.                                                | REVISTA MEXICANA DE ASTRONOMIA Y ASTROFISICA, SERIE DE CONFERENCIAS | 2023 |
| 7  | EXPERIMENTAL MICROMETEORITES: PETROLOGY, THERMAL HISTORIES AND ORGANIC COMPOUNDS PRESERVATION                                                                     | KARINA ELIZABETH CERVANTES DE LA CRUZ ALEJANDRO HEREDIA BARBERO PATRICIA HERNANDEZ RESENDIZ et al. | REVISTA MEXICANA DE ASTRONOMIA Y ASTROFISICA, SERIE DE CONFERENCIAS | 2023 |
| 8  | IMPORTANCE OF UV RADIATION OF STARS WITH DIFFERENT SPECTRAL TYPES IN THE FORMATION OF ADENINE ON A POTENTIALLY HABITABLE PLANET WITH A CO <sub>2</sub> ATMOSPHERE | ANTIGONA SEGURA PERALTA ALEJANDRO HEREDIA BARBERO Armas M.Z. et al.                                | REVISTA MEXICANA DE ASTRONOMIA Y ASTROFISICA, SERIE DE CONFERENCIAS | 2023 |
| 9  | HISTIDINE SELF-ASSEMBLY AND STABILITY ON MINERAL SURFACES AS A MODEL OF PREBIOTIC CHEMICAL EVOLUTION: AN EXPERIMENTAL AND COMPUTATIONAL APPROACH                  | ALICIA NEGRON MENDOZA SERGIO AGUSTIN RAMOS BERNAL ALEJANDRO HEREDIA BARBERO et al.                 | REVISTA MEXICANA DE ASTRONOMIA Y ASTROFISICA, SERIE DE CONFERENCIAS | 2023 |
| 10 | GEOCHEMICAL STUDY OF TEKTITES AND MICROSPHERES AS INDICATORS OF METEORITE IMPACT AND THEIR COMPARISON WITH OTHER NATURAL GLASSES                                  | JESUS SOLE VIÑAS ALEJANDRO HEREDIA BARBERO PRIYADARSI DEBAJYOTI ROY et al.                         | REVISTA MEXICANA DE ASTRONOMIA Y ASTROFISICA, SERIE DE CONFERENCIAS | 2023 |
| 11 | STUDY OF THE ABSORPTION CROSS SECTION TO MEASURE THE DISSIPATIVE CAPACITY OF ANTENNA PROTEINS                                                                     | SERGIO AGUSTIN RAMOS BERNAL ALICIA NEGRON MENDOZA ALEJANDRO HEREDIA BARBERO et al.                 | REVISTA MEXICANA DE ASTRONOMIA Y ASTROFISICA, SERIE DE CONFERENCIAS | 2023 |
| 12 | FERREDOXIN MOTIF BOUND TO A Fe <sub>4</sub> S <sub>4</sub> GROUP AS A MODEL FOR A PREBIOTIC PROTOFERREDOXIN                                                       | YASMIN REYES MEDINA ALEJANDRO HEREDIA BARBERO Montoya L.                                           | REVISTA MEXICANA DE ASTRONOMIA Y ASTROFISICA, SERIE DE CONFERENCIAS | 2023 |

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| 13 | SHARED DNA-DODECAMERS STRUCTURE<br>INCIDENCE AS STUDY OBJECTS IN EXTREME<br>HALOPHILIC ENVIRONMENTS AND EARLY LIFE                                             | HECTOR GILBERTO VAZQUEZ LOPEZ<br>RICARDO GARCIA SANDOVAL<br>ALEJANDRO HEREDIA BARBERO et al.          | REVISTA<br>MEXICANA DE<br>ASTRONOMIA Y<br>ASTROFISICA,<br>SERIE DE<br>CONFERENCIAS                            | 2023 |
| 14 | COMPUTATIONAL SIMULATION OF THE<br>PHOSPHORYLATION OF THE RIBOSE IN THE<br>PRESENCE OF WHITLOCKITE AS PRIMITIVE<br>MINERAL IN THE PRIMITIVE EARTH              | JOSE IGNACIO MATEOS LOPEZ PAOLA<br>MOLINA SEVILLA ALICIA NEGRON<br>MENDOZA et al.                     | REVISTA<br>MEXICANA DE<br>ASTRONOMIA Y<br>ASTROFISICA,<br>SERIE DE<br>CONFERENCIAS                            | 2023 |
| 15 | Interaction Mechanisms and Interface<br>Configuration of Cysteine Adsorbed on<br>Gold, Silver, and Copper Nanoparticles                                        | PENELOPE RODRIGUEZ ZAMORA<br>CEDRIC ALEXANDER CORDERO SILIS<br>JORGE REFUGIO FABILA FABIAN et al.     | Langmuir                                                                                                      | 2022 |
| 16 | Role of Na <sup>+</sup> -montmorillonite in the<br>stability of guanine exposed to<br>high-radiation energy in primitive<br>environments: Heterogeneous models | ADRIANA LETICIA MELENDEZ LOPEZ<br>ALEJANDRO HEREDIA BARBERO<br>JORGE ARMANDO CRUZ CASTAÑEDA<br>et al. | RADIATION<br>PHYSICS AND<br>CHEMISTRY                                                                         | 2021 |
| 17 | Histidine Self-assembly and Stability on<br>Mineral Surfaces as a Model of Prebiotic<br>Chemical Evolution: An Experimental and<br>Computational Approach      | KARINA ELIZABETH CERVANTES DE LA<br>CRUZ ISABEL MEJIA LUNA ALICIA<br>NEGRON MENDOZA et al.            | ORIGINS OF LIFE<br>AND EVOLUTION<br>OF BIOSPHERES                                                             | 2021 |
| 18 | Computer and Experimental Simulation<br>of Alloxazine Synthesis from Gamma<br>Irradiation of Amino Acids on Iceland<br>Spar: A Prebiotic Chemistry Perspective | JORGE ARMANDO CRUZ CASTAÑEDA<br>ALICIA NEGRON MENDOZA<br>ALEJANDRO HEREDIA BARBERO et al.             | JOURNAL OF<br>MOLECULAR<br>EVOLUTION                                                                          | 2020 |
| 19 | The behavior of aldehydes of<br>astrobiological importance under<br>irradiation                                                                                | ANAYELLY LOPEZ ISLAS CLAUDIO<br>ALEJANDRO FUENTES CARREON<br>JORGE ARMANDO CRUZ CASTAÑEDA<br>et al.   | Memorie della<br>Societa<br>Astronomica<br>Italiana -<br>Journal of the<br>Italian<br>Astronomical<br>Society | 2019 |
| 20 | Irradiation of cytosine adsorbed in a clay<br>mineral                                                                                                          | ALEJANDRO PAREDES ARRIAGA<br>ADRIANA LETICIA MELENDEZ LOPEZ<br>JORGE ARMANDO CRUZ CASTAÑEDA<br>et al. | Memorie della<br>Societa<br>Astronomica<br>Italiana -<br>Journal of the<br>Italian<br>Astronomical<br>Society | 2019 |

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|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|------|
| 21 | Computer simulation of a primitive peptide in a mineral environment analogous to the Naica system                                                           | SERGIO AGUSTIN RAMOS BERNAL<br>ALICIA NEGRON MENDOZA<br>ALEJANDRO HEREDIA BARBERO et al.                | Memorie della Societa Astronomica Italiana - Journal of the Italian Astronomical Society | 2019 |
| 22 | Irradiation of glyceraldehyde under simulated prebiotic conditions: Study in solid and aqueous state                                                        | JORGE ARMANDO CRUZ CASTAÑEDA<br>CLAUDIO ALEJANDRO FUENTES<br>CARREON SERGIO AGUSTIN RAMOS BERNAL et al. | JOURNAL OF RADIOANALYTICAL AND NUCLEAR CHEMISTRY                                         | 2018 |
| 23 | Salinity Effects on the Adsorption of Nucleic Acid Compounds on Na-Montmorillonite: a Prebiotic Chemistry Experiment                                        | SAUL ALBERTO VILLAFañE BARAJAS<br>MARIA COLIN GARCIA ALICIA NEGRON MENDOZA et al.                       | ORIGINS OF LIFE AND EVOLUTION OF BIOSPHERES                                              | 2018 |
| 24 | Unusual Microstructure and Mechanical Properties of Egg Case of the Bolas Spider Mastophora corpulenta Banks (Araneae, Araneidae)                           | VLADIMIR BASSIOUK EVDOKIMENKO<br>ALEJANDRO HEREDIA BARBERO<br>Salerno M. et al.                         | FIBERS AND POLYMERS                                                                      | 2018 |
| 25 | Ultraviolet irradiation of glycine in presence of pyrite as a model of chemical evolution: an experimental and molecular modelling approach                 | MARIA COLIN GARCIA SERGIO AGUSTIN RAMOS BERNAL ALICIA NEGRON MENDOZA et al.                             | INTERNATIONAL JOURNAL OF ASTROBIOLOGY                                                    | 2017 |
| 26 | Computer simulation and experimental self-assembly of irradiated glycine amino acid under magnetic fields: Its possible significance in prebiotic chemistry | ALEJANDRO HEREDIA BARBERO<br>MARIA COLIN GARCIA TERESA PI PUIG et al.                                   | Biosystems                                                                               | 2017 |
| 27 | HISTIDINE AS AN ORIGIN OF LIFE POSSIBLE PRECURSOR                                                                                                           | KARINA ELIZABETH CERVANTES DE LA CRUZ ISABEL MEJIA LUNA DONOVAN OMAR VILLANUEVA PINEDA et al.           | GRANJA-REVISTA DE CIENCIAS DE LA VIDA                                                    | 2017 |
| 28 | Deposition of Carbon Nanotube Films on Polyamide and Polypropylene Substrates: A Computer Simulation Approach                                               | ALEJANDRO HEREDIA BARBERO<br>MARIA COLIN GARCIA MARIA DEL PILAR CARREON CASTRO et al.                   | MATERIALS RESEARCH-IBERO-AMERICAN JOURNAL OF MATERIALS                                   | 2016 |
| 29 | Hydrothermal vents and prebiotic chemistry: a review                                                                                                        | MARIA COLIN GARCIA ALEJANDRO HEREDIA BARBERO ANTONI CAMPRUBI CANO et al.                                | BOLETIN DE LA SOCIEDAD GEOLOGICA MEXICANA                                                | 2016 |

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|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|--------------------------------------------------|------|
| 30 | Ultraviolet irradiation of glycine in presence of pyrite as a model of chemical evolution: an experimental and molecular modelling approach                      | MARIA COLIN GARCIA SERGIO<br>AGUSTIN RAMOS BERNAL ALICIA<br>NEGRON MENDOZA et al.            | INTERNATIONAL JOURNAL OF ASTROBIOLOGY            | 2016 |
| 31 | Non-covalent attachment of silver nanoclusters onto single-walled carbon nanotubes with human serum albumin as linking molecule                                  | Andres RodriguezGalvan<br>ALEJANDRO HEREDIA BARBERO Oscar<br>AmelinesSarria et al.           | APPLIED SURFACE SCIENCE                          | 2015 |
| 32 | Chemical evolution studies: the radiolysis and thermal decomposition of malonic acid                                                                             | JORGE ARMANDO CRUZ CASTAÑEDA<br>ALICIA NEGRON MENDOZA MARIA<br>COLIN GARCIA et al.           | JOURNAL OF RADIOANALYTICAL AND NUCLEAR CHEMISTRY | 2015 |
| 33 | Heterogeneous radiolysis of urea. Implications in astrobiology and prebiotic chemistry                                                                           | Abigail E. CruzHernandez MARIA<br>COLIN GARCIA ALEJANDRO HEREDIA<br>BARBERO et al.           | OPEN CHEMISTRY                                   | 2015 |
| 34 | Local piezoresponse and polarization switching in nucleobase thymine microcrystals                                                                               | ALEJANDRO HEREDIA BARBERO<br>Bdikin, Igor Neumayer, Sabine M. et al.                         | JOURNAL OF APPLIED PHYSICS                       | 2015 |
| 35 | Adsorption of HCN onto sodium montmorillonite dependent on the pH as a component to chemical evolution                                                           | MARIA COLIN GARCIA ALEJANDRO<br>HEREDIA BARBERO ALICIA NEGRON<br>MENDOZA et al.              | INTERNATIONAL JOURNAL OF ASTROBIOLOGY            | 2014 |
| 36 | Characterization and luminescent properties of thermally annealed olivines                                                                                       | MARIA COLIN GARCIA ALEJANDRO<br>HEREDIA BARBERO FERNANDO<br>ORTEGA GUTIERREZ et al.          | RADIATION MEASUREMENTS                           | 2013 |
| 37 | Piezoelectric resonators based on self-assembled diphenylalanine microtubes                                                                                      | ALEJANDRO HEREDIA BARBERO Bosne<br>E.D. Kopyl S. et al.                                      | APPLIED PHYSICS LETTERS                          | 2013 |
| 38 | Nanoscale ferroelectricity in crystalline $\alpha$ -glycine                                                                                                      | ALEJANDRO HEREDIA BARBERO<br>Meunier V. Bdikin I.K. et al.                                   | ADVANCED FUNCTIONAL MATERIALS                    | 2012 |
| 39 | Local piezoelectric activity of single poly(L-lactic acid) (PLLA) microfibers                                                                                    | ALEJANDRO HEREDIA BARBERO<br>Sencadas V. Ribeiro C. et al.                                   | APPLIED PHYSICS A-MATERIALS SCIENCE & PROCESSING | 2012 |
| 40 | Cd <sup>2+</sup> affects the growth, hierarchical structure and peptide composition of the biosilica of the freshwater diatom Nitzschia palea (Kutzing) W. Smith | ALEJANDRO HEREDIA BARBERO<br>Andres Rodriguez Galvan VLADIMIR<br>BASSIOUK EVDOKIMENKO et al. | PHYCOLOGICAL RESEARCH                            | 2012 |

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|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|-----------------------------------------------|------|
| 41 | BioFerroelectricity: Diphenylalanine peptide nanotubes computational modeling and ferroelectric properties at the nanoscale                                                                                                                                | ALEJANDRO HEREDIA BARBERO<br>Bystrov V.S. Paramonova E. et al.                                             | Ferroelectrics                                | 2012 |
| 42 | Production of polar $\beta$ -glycine nanofibers with enhanced nonlinear optical and piezoelectric properties                                                                                                                                               | ALEJANDRO HEREDIA BARBERO<br>Isakov D. Gomes E.D.M. et al.                                                 | CRYSTAL<br>GROWTH &<br>DESIGN                 | 2011 |
| 43 | Ferroelectric Properties of Dried Rat Embryonic Neurons from the Substantia nigra by the Piezoresponse Force Microscopy                                                                                                                                    | ALEJANDRO HEREDIA BARBERO Bdkin<br>I. Baltazar G. et al.                                                   | EUROPEAN<br>CELLS &<br>MATERIALS              | 2010 |
| 44 | Preferred deposition of phospholipids onto ferroelectric P(VDF-TrFE) films via polarization patterning                                                                                                                                                     | ALEJANDRO HEREDIA BARBERO<br>Machado M. Bdkin I.K. et al.                                                  | JOURNAL OF<br>PHYSICS<br>D-APPLIED<br>PHYSICS | 2010 |
| 45 | Temperature-driven phase transformation in self-assembled diphenylalanine peptide nanotubes                                                                                                                                                                | ALEJANDRO HEREDIA BARBERO Bdkin<br>I. Kopyl S. et al.                                                      | JOURNAL OF<br>PHYSICS<br>D-APPLIED<br>PHYSICS | 2010 |
| 46 | Characterization of the CaCO <sub>3</sub> biomineral in coralline red algae (Corallinales) from the Pacific coast of Mexico [Caracterización del biomineral CaCO <sub>3</sub> en algas rojas coralinas (Corallinales) de las costas del Pacífico Mexicano] | DALILA FRAGOSO TEJAS HIRAM<br>FERNANDO RAMIREZ CAHERO<br>ROBERTO HERNANDEZ REYES et al.                    | Ciencias<br>Marinas                           | 2010 |
| 47 | Scanning tunneling microscopy of rotavirus VP6 protein self-assembled into nanotubes and nanospheres                                                                                                                                                       | ALEJANDRO HEREDIA BARBERO<br>OCTAVIO TONATIUH RAMIREZ<br>REIVICH LAURA ALICIA PALOMARES<br>AGUILERA et al. | Journal of<br>Scanning Probe<br>Microscopy    | 2008 |
| 48 | Analysis of cross-sections of ditylum brightwelli biosilica by tapping mode atomic force microscopy and scanning electron microscopy                                                                                                                       | ALEJANDRO HEREDIA BARBERO Silva<br>S. Santos C. et al.                                                     | Journal of<br>Scanning Probe<br>Microscopy    | 2008 |
| 49 | Analysis of organo-silica interactions during valve formation in synchronously growing cells of the diatom Navicula pelliculosa                                                                                                                            | ALEJANDRO HEREDIA BARBERO<br>VLADIMIR BASSIOUK EVDOKIMENKO<br>van der Strate, Han J. et al.                | Chembiochem                                   | 2008 |
| 50 | AFM combines functional and morphological analysis of peripheral myelinated and demyelinated nerve fibers                                                                                                                                                  | ALEJANDRO HEREDIA BARBERO Bui<br>C.C. Suter U. et al.                                                      | Neuroimage                                    | 2007 |

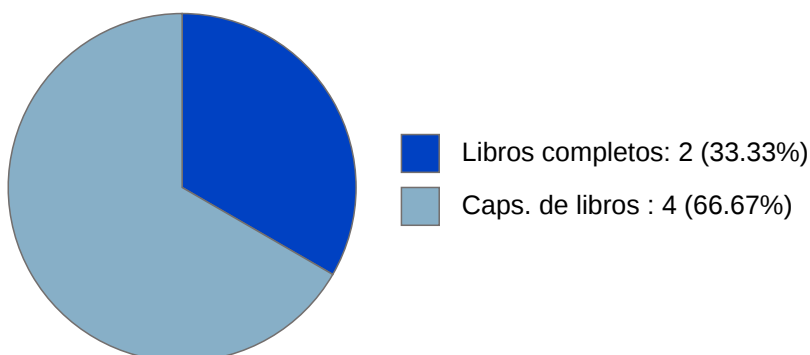
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|----|------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|------|
| 51 | Structure and interactions of calcite spherulites with $\alpha$ -chitin in the brown shrimp ( <i>Penaeus aztecus</i> ) shell | ALEJANDRO HEREDIA BARBERO<br>MANUEL AGUILAR FRANCO CARLOS<br>RAUL MAGAÑA ZAVALA et al.                           | MATERIALS<br>SCIENCE &<br>ENGINEERING<br>C-MATERIALS<br>FOR BIOLOGICAL<br>APPLICATIONS | 2007 |
| 52 | In vitro differentiation of human dental follicle cells with dexamethasone and insulin                                       | ALEJANDRO HEREDIA BARBERO<br>Morszeck C. Moehl C. et al.                                                         | CELL BIOLOGY<br>INTERNATIONAL                                                          | 2005 |
| 53 | Microstructure and thermal change of texture of calcite crystals in ostrich eggshell <i>Struthio camelus</i>                 | ALEJANDRO HEREDIA BARBERO ANA<br>GUADALUPE RODRIGUEZ HERNANDEZ<br>LUIS FERNANDO LOZANO AGUIRRE<br>BELTRAN et al. | MATERIALS<br>SCIENCE &<br>ENGINEERING<br>C-MATERIALS<br>FOR BIOLOGICAL<br>APPLICATIONS | 2005 |
| 54 | A comparative analysis by LVSEM and DSC of some mineralized biological hard tissues: Bone, dentin and ostrich eggshell       | LAURO BUCIO GALINDO ALEJANDRO<br>HEREDIA BARBERO LUIS FERNANDO<br>LOZANO AGUIRRE BELTRAN et al.                  | MICROSCOPY<br>AND<br>MICROANALYSIS                                                     | 2003 |
| 55 | Thermal analysis study of human bone                                                                                         | LUIS FERNANDO LOZANO AGUIRRE<br>BELTRAN MIGUEL ANGEL PEÑA RICO<br>ALEJANDRO HEREDIA BARBERO et al.               | JOURNAL OF<br>MATERIALS<br>SCIENCE                                                     | 2003 |
| 56 | Thermal properties of mineralized and non mineralized type I collagen in bone                                                | LUIS FERNANDO LOZANO AGUIRRE<br>BELTRAN MIGUEL ANGEL PEÑA RICO<br>ALEJANDRO HEREDIA BARBERO et al.               | Materials<br>Research<br>Society<br>Symposium<br>Proceedings                           | 2002 |
| 57 | Microstructure and thermal expansion properties of ostrich eggshell                                                          | ALEJANDRO HEREDIA BARBERO LUIS<br>FERNANDO LOZANO AGUIRRE<br>BELTRAN MIGUEL ANGEL PEÑA RICO<br>et al.            | Materials<br>Research<br>Society<br>Symposium<br>Proceedings                           | 2002 |

**ALEJANDRO HEREDIA BARBERO**

**LIBROS Y CAPITULOS CON ISBN**

**Obras con registro ISBN**



| # | Título                                                                                     | Autores                                                                                      | Alcance                 | Año  | ISBN          |
|---|--------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|-------------------------|------|---------------|
| 1 | Termodinámica para Ciencias de la Tierra:                                                  | GENARO MUÑOZ<br>HERNANDEZ ALEJANDRO<br>ROJAS TAPIA ROGELIO<br>SOTO AYALA et al.              | Libro<br>Completo       | 2023 | 9786073076661 |
| 2 | El hombre temprano en América y sus implicaciones en el poblamiento de la cuenca de México | MARIA VILLANUEVA<br>SAGRADO CARLOS<br>SERRANO SANCHEZ<br>RICARDO LASCURAIN<br>LEDESMA et al. | Libro<br>Completo       | 2019 | 9786075392929 |
| 3 | Noachian environments on Mars and the possible emergence of life                           | HUGO BRUNO BERALDI<br>CAMPESI MARIA COLIN<br>GARCIA ALEJANDRO<br>HEREDIA BARBERO et al.      | Capítulo<br>de un Libro | 2013 | 9781626181021 |
| 4 | The role of hydrogen cyanide in the origin of Life                                         | ALICIA NEGRON<br>MENDOZA ALEJANDRO<br>HEREDIA BARBERO MARIA<br>COLIN GARCIA et al.           | Capítulo<br>de un Libro | 2013 | 9781626182974 |
| 5 | Electromechanical imaging of ferroelectric and piezoelectric materials                     | ALEJANDRO HEREDIA<br>BARBERO BdiKin I. Rai R.<br>et al.                                      | Capítulo<br>de un Libro | 2012 | 9781614706427 |



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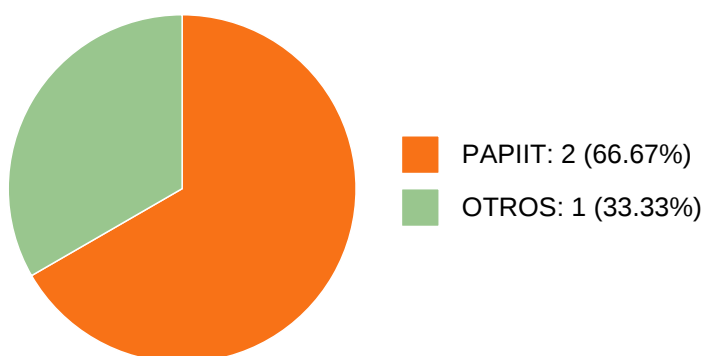
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|---|---------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|-------------------------|------|---------------|
| 6 | Comets and the origin of life: Pioneer of organics for chemical evolution | MARIA COLIN GARCIA<br>ALICIA NEGRON<br>MENDOZA SERGIO<br>AGUSTIN RAMOS BERNAL<br>et al. | Capítulo<br>de un Libro | 2011 | 9781613246580 |
|---|---------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|-------------------------|------|---------------|

**ALEJANDRO HEREDIA BARBERO**

**PARTICIPACIÓN EN PROYECTOS**

**Histórico de participación en proyectos**



| # | Nombre                                                                                                                                                                                      | Participantes             | Fuente            | Fecha inicio | Fecha fin  |
|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-------------------|--------------|------------|
| 1 | Formación de enlaces tipo peptídico en glicina y alanina mediante procesos de hidratación-deshidratación en un modelo de evolución química en la Tierra primitiva.                          | ALEJANDRO HEREDIA BARBERO | Recursos PAPIIT   | 01-01-2019   | 31-12-2021 |
| 2 | Simulación computacional y experimental de la potencial oligomerización prebiótica de aminoácidos de bajos pesos moleculares heteroquirales en superficies minerales en la Tierra primitiva | ALEJANDRO HEREDIA BARBERO | Recursos PAPIIT   | 01-01-2022   | 31-12-2024 |
| 3 | Estudio de la dimerización de la alanina dependiente de la quiralidad en una superficie nanoestructurada de kamacita (NiFe): una aproximación al origen de la heteroquiralidad biológica    | ALEJANDRO HEREDIA BARBERO | Recursos CONAHCyT | 27-05-2024   | 27-05-2026 |



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**PARTICIPACIÓN EN TESIS**

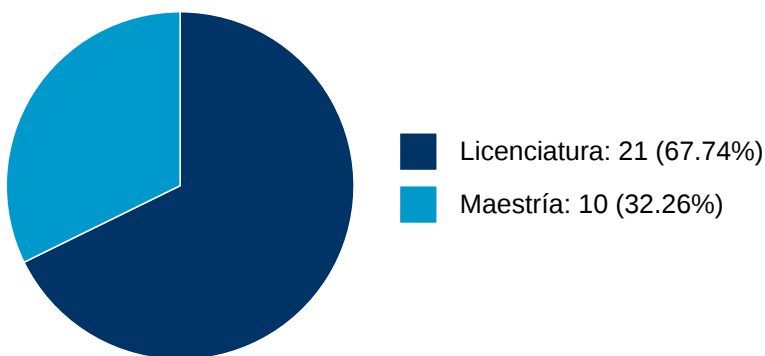
**No se encuentran registros en la base de datos de TESIUNAM asociados a:**

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**DOCENCIA IMPARTIDA**

**Histórico de docencia**



| #  | Nivel titulación | Asignatura                                               | Entidad                                    | Alumnos | Semestre |
|----|------------------|----------------------------------------------------------|--------------------------------------------|---------|----------|
| 1  | Licenciatura     | TEMAS SELECTOS D CIENCIAS ESPACIALE                      | Escuela Nacional de Ciencias de la Tierra  | 1       | 2024-2   |
| 2  | Licenciatura     | TALLER INVEST.CIENCIAS ESPACIAL.I                        | Facultad de Ciencias                       | 3       | 2024-2   |
| 3  | Licenciatura     | TALLER INVEST.CIENCIAS ESPACIAL.II                       | Facultad de Ciencias                       | 1       | 2024-2   |
| 4  | Licenciatura     | TALLER INVEST.CIENCIAS ESPACIAL.I                        | Facultad de Ciencias                       | 1       | 2024-1   |
| 5  | Licenciatura     | TALLER INVEST.CIENCIAS ESPACIAL.II                       | Facultad de Ciencias                       | 3       | 2023-2   |
| 6  | Licenciatura     | TALLER INVEST.CIENCIAS ESPACIAL.II                       | Facultad de Ciencias                       | 6       | 2023-1   |
| 7  | Licenciatura     | TALLER INVEST.CIENCIAS ESPACIAL.I                        | Facultad de Ciencias                       | 3       | 2023-1   |
| 8  | Licenciatura     | TALLER INVEST.CIENCIAS ESPACIAL.I                        | Facultad de Ciencias                       | 6       | 2022-2   |
| 9  | Licenciatura     | TALLER INVEST.CIENCIAS ESPACIAL.II                       | Facultad de Ciencias                       | 2       | 2022-2   |
| 10 | Licenciatura     | TALLER INVEST.CIENCIAS ESPACIAL.I                        | Facultad de Ciencias                       | 1       | 2022-1   |
| 11 | Licenciatura     | TALLER INVEST.CIENCIAS ESPACIAL.II                       | Facultad de Ciencias                       | 4       | 2022-1   |
| 12 | Licenciatura     | TALLER INVEST.CIENCIAS ESPACIAL.I                        | Facultad de Ciencias                       | 2       | 2021-2   |
| 13 | Licenciatura     | TALLER INVEST.CIENCIAS ESPACIAL.II                       | Facultad de Ciencias                       | 2       | 2021-2   |
| 14 | Licenciatura     | TALLER INVEST.CIENCIAS ESPACIAL.I                        | Facultad de Ciencias                       | 2       | 2021-1   |
| 15 | Licenciatura     | TALLER INVEST.CIENCIAS ESPACIAL.II                       | Facultad de Ciencias                       | 3       | 2020-2   |
| 16 | Maestría         | NANOTECNOLOGÍA Y NANOMATERIALES                          | Instituto de Investigaciones en Materiales | 1       | 2020-2   |
| 17 | Maestría         | MATERIALES ELECTRÓNICOS: NANOTECNOLOGÍA Y NANOMATERIALES | Instituto de Investigaciones en Materiales | 1       | 2020-2   |
| 18 | Maestría         | TRABAJO DE INVESTIGACIÓN                                 | Facultad de Química                        | 1       | 2020-1   |

**ALEJANDRO HEREDIA BARBERO**

|    |              |                                                             |                                                  |   |        |
|----|--------------|-------------------------------------------------------------|--------------------------------------------------|---|--------|
| 19 | Maestría     | MATERIALES ELECTRÓNICOS:<br>NANOTECNOLOGÍA Y NANOMATERIALES | Instituto de<br>Investigaciones en<br>Materiales | 1 | 2020-1 |
| 20 | Licenciatura | TALLER INVEST.CIENCIAS ESPACIAL.I                           | Facultad de Ciencias                             | 3 | 2020-1 |
| 21 | Maestría     | TRABAJO DE INVESTIGACIÓN                                    | Facultad de Química                              | 1 | 2019-2 |
| 22 | Maestría     | TRABAJO DE INVESTIGACIÓN                                    | Facultad de Química                              | 1 | 2019-1 |
| 23 | Maestría     | TRABAJO DE INVESTIGACIÓN                                    | Facultad de Química                              | 1 | 2019-1 |
| 24 | Licenciatura | TALLER INVEST.CIENCIAS ESPACIAL.I                           | Facultad de Ciencias                             | 1 | 2018-2 |
| 25 | Maestría     | TRABAJO DE INVESTIGACION                                    | Facultad de Química                              | 1 | 2018-2 |
| 26 | Maestría     | TRABAJO DE INVESTIGACION                                    | Facultad de Química                              | 1 | 2018-2 |
| 27 | Maestría     | TEMAS SELECTOS, GEOBIOLOGIA                                 | Facultad de Ciencias                             | 1 | 2018-1 |
| 28 | Licenciatura | TALLER INVEST.CIENCIAS ESPACIAL.II                          | Facultad de Ciencias                             | 4 | 2017-2 |
| 29 | Licenciatura | TALLER INVEST.CIENCIAS ESPACIAL.I                           | Facultad de Ciencias                             | 4 | 2017-1 |
| 30 | Licenciatura | TALLER INVEST.CIENCIAS ESPACIAL.II                          | Facultad de Ciencias                             | 1 | 2016-2 |
| 31 | Licenciatura | TALLER INVEST.CIENCIAS ESPACIAL.I                           | Facultad de Ciencias                             | 1 | 2016-1 |



**Sistema Integral de Información Académica**  
**Coordinación de Planeación, Evaluación y**  
**Simplificación de la Gestión Institucional**  
**Reporte individual**



**ALEJANDRO HEREDIA BARBERO**

**PATENTES**

**No se encuentran registros en la base de datos de patentes asociados a:**

**ALEJANDRO HEREDIA BARBERO**

**ALEJANDRO HEREDIA BARBERO**

**FUENTES DE INFORMACIÓN**

**Internos**

| # | Información                                                          | Fuente | Sistema     | Periodo   |
|---|----------------------------------------------------------------------|--------|-------------|-----------|
| 1 | Grupos ordinarios y resumen de historias académicas                  | DGAE   | SIAE        | 2008-2025 |
| 2 | Nombramientos, datos generales, estímulos, premios y reconocimientos | DGAPA  | RUPA        | 2008-2025 |
| 3 | Producción Académica                                                 | CH     | Humanindex  | 2008-2021 |
| 4 | Producción Académica                                                 | CIC    | SCIC        | 2000-2017 |
| 5 | Proyectos                                                            | DGPO   | SISEPRO     | 2018-2022 |
| 6 | Tesis                                                                | DGB    | TESIUNAM    | 2008-2025 |
| 7 | Tutorías en Posgrado                                                 | CGEP   | SIIPosgrado | 2008-2021 |

**Externos**

| #  | Información             | Fuente          | Sistema      | Periodo   |
|----|-------------------------|-----------------|--------------|-----------|
| 8  | Documentos Indexados    | Elsevier        | Scopus       | 2008-2025 |
| 9  | Documentos Indexados    | Thomson Reuters | WoS          | 2008-2025 |
| 10 | Obras con registro ISBN | INDAUTOR        | Agencia ISBN | 2008-2025 |
| 11 | Patentes                | IMPI            | SIGA         | 2008-2024 |