

Part A. Personal Information

DATE	07/Oct/2024
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Surname(s)	Hernández Creus	
Forename	Alberto	
Social Security, Passport, ID number		
Sex		
Age		
Researcher codes	WoS Researcher ID (*)	K-3621-2014
	SCOPUS Author ID(*)	6602089827
	Open Researcher and Contributor ID (ORCID)	0000-0002-8793-6236

(*) At least one of these is mandatory

A.1. Current position

Post/ Professional Category	Full Professor	
UNESCO Code	2307	
Key Words	Functionalized Surfaces, Self-assembled monolayers, Ultrathin films, Nanomechanical properties, Surface Modelization, Nanomaterials, Electrografting, STM, AFM	
Name of the University/Institution	University of La Laguna	
	Department/Centre	Chemistry
	Full Address	Avda Francisco Sanchez s/n 38206 San Cristóbal de La Laguna Santa Cruz de Tenerife, España
	Email Address	ahcreus@ull.edu.es
	Phone Number	+34922318021
Start date	Dec-27th--2011	

A.2. Education (title, institution, date)

Year	University	Degree	Title
1980	La Laguna	First degree	Degree in Chemistry
1981	La Laguna	Masters (if appropriate)	Master Degree in Physical Chemistry
1984	La Laguna	PhD	Doctor in Chemistry

A.3. Indicators of Quality in Scientific Production (See the instructions)

<p>-Total number of papers: 96 (87 in JCR Journals)</p> <p>-H-index: 24 (Scopus)</p> <p>-Total number of citations: 1622 (Scopus)</p> <p>-Average cites/year during the last five years: 81</p> <p>-Average cites per document: 17</p> <p>-Number of publications in the first quartile: 64</p> <p>-Thesis Supervised: 5</p> <p>-6 periods of 6 years on research recognized positively by Ministry of Education and Science (Spain).</p>

Part B. Free Summary of CV (Max. of 3.500 characters, including spaces)

Prof. Alberto Hernández Creus is full Professor at the Physical Chemistry Unit of the Faculty of Science, University of La Laguna. He started his PhD studies at the Physical Chemistry Department at the ULL in 1984. He was conducted several stays (1992-96) as a PosDoc at the Instituto de Investigaciones Fisicoquímicas Teóricas y Aplicadas (INIFTA), La Plata University, Argentina, under the supervision of Prof Alejandro J. Arvia and Prof. Roberto C.

Salvarezza, where he become specialist in Scanning Probe Microscopies techniques. He is the supervisor of the Atomic Force Microscopy and Scanning Tunneling Microscopy General Research Service (SMFA) at the University of La Laguna. He is the group leader of the Nanoscopic Techniques, Surfaces and Molecular Electrochemistry Group at the ULL. His main research lines are focused on (i) the surface modification at the nanoscale of conductive substrates regarding its electrochemical activity; (ii) the formation of nanostructured ultrathin films and self-assembled monolayers of organic and bioorganic molecules and the characterization of its nanomechanical, electric and conductive properties; (iii) the characterization at the nanoscale of biological and soft materials; (iv) and the electrografting surface modification process of graphite electrodes.

He is co-author of 86 scientific publications in peer-reviewed international journals indexed in the JCR database and participant over 26 research projects, being the supervisor in 10 of them. He has been the supervisor of 5 PhD thesis, 1 master thesis, 3 undergraduate thesis and several end-of-degree projects.

Since its foundation in 2010 is member of the Institute of Materials and Nanotechnology, IMN at the University of La Laguna, an interdisciplinary research institute which includes several groups working in the area of Materials Science and Technology. Currently is the Director of the Chemistry Department.

Part C. Relevant accomplishments

C.1. Publications

Nathalia Nocchi, Alejandro González-Orive, Alberto Hernández Creus, Jacob Lorenzo Morales, Adriana Rodríguez Hernández, Rodrigo Morchón, Ana R. Díaz Marrero, José J. Fernández.

ALCIPORIN, A PORE-FORMING PROTEIN AS COMPLEMENTARY DEFENSE MECHANISM IN MILLEPORA ALCICORNIS

Frontiers in Marine Sciences, (2022), vol. 9, article number n° 914084

DOI: 10.3389/fmars.2022.914084

Ana R. Díaz-Marrero, Miriam C. Rodríguez González, Alberto Hernández Creus, Adriana Rodríguez Hernández, José J. Fernández.

DAMAGES AT THE NANOSCALE ON RED BLOOD CELLS PROMOTED BY FIRE CORALS.

Scientific Reports (2019), vol. 9, 14298, DOI <https://doi.org/10.1038/s41598-019-50744-6>

Ana R. Díaz Marrero, Atteneri López Arencibia, Carlos J. Bethencourt Estrella, Francisco Cen Pacheco, Inés Sifaouil, Alberto Hernández Creus, María Clara Duque Ramírez, María L. Souto, Antonio Hernández Darana, Jacob Lorenzo Morales, José J. Fernández

ANTIPROTOZOAL ACTIVITIES OF MARINE POLYETHER TRITERPENOIDES.

Bioorganic Chemistry (2019) vol. 19, 103276

César Espinoza, Miriam C. Rodríguez González, Guillermo Mendoza, Alberto Hernández Creus, Ángel Trigos, José J. Fernández.

EXPLORING PHOTSENSITIZATION AS AN EFFICIENT ANTIFUNGAL METHOD.

Scientific Reports (2018), vol. 8, n° article: 14489, p. 1-7.

Miriam C. Rodríguez González, Pilar Carro, Alberto Hernández Creus

MORPHOLOGICAL CHANGES IN ELECTROGRAFTED ARYL-BASED THIN FILMS INDUCED BY THE USE OF DIAZONIUM SALTS OR ARYL IODIDES.

ChemElectroChem (2018) vol. 5, p. 464-470.

Fiorela Ghilini, Miriam C. Rodríguez González, Alejandro G. Miñán, Diego Pissinis, Alberto Hernández Creus, Roberto C. Salvarezza, Patricia L. Schilardi

HIGHLY-STABILIZED NANOPARTICLES ON POLY-L-LYSINE-COATED OXIDIZED METALS: A VERSATILE PLATFORM WITH ENHANCED ANTIMICROBIAL ACTIVITY.

ACS applied materials & interfaces (2018), Vol. 10-N° 28, p. 23657-23666.

Miriam C. Rodríguez González, P. Carro, L. Vázquez, A. H. Creus
MAPPING NANOMETRIC ELECTRONIC PROPERTIES CHANGES INDUCED BY ARYL DIAZONIUM SUB-MONOLAYER ON HOPG
Phys. Chem. Chem. Phys., (2016), vol. 18, p. 29218-29225.

Miriam C. Rodríguez González; Alejandro González Orive; Roberto C. Salvarezza.; Alberto Hernández Creus
ELECTRODEPOSITION OF GOLD NANOPARTICLES ON ARYL DIAZONIUM MONOLAYER FUNCTIONALIZED HOPG SURFACES
Physical Chemistry Chemical Physics, (2016), volume 18, 1953-1960

Lucia Morales Rivas; Alejandro Gonzalez Orive; Carlos Garcia Mateo; Alberto Hernández Creus; Francisca G. Caballero; Luis Vázquez
NANOMECHANICAL CHARACTERIZATION OF NANOSTRUCTURED BAINITIC STEEL: PEAK FORCE MICROSCOPY AND NANOINDENTATION WITH AFM
Scientific Reports, Volumen: 5, (2015) DOI: 10.1038/srep1716

Evangelina Pensa, Aldo Rubert, Guillermo Benítez, Pilar Carro, Alejandro González Orive, Alberto Hernández Creus, Roberto C. Salvarezza and Carolina Vericat.
ARE 4-MERCAPTOBENZOIC ACID SELF ASSEMBLED MONOLAYERS ON Au(111) A SUITABLE SYSTEM TO TEST ADATOM MODELS?
Journal of Physical Chemistry C, (2012), vol. 116(49), 25765-25771.

Alejandro González Orive, Alberto Hernández Creus, Pilar Carro and Roberto C. Salvarezza.
MELANIN FILMS ON Au(111): ADSORPTION AND MOLECULAR CONDUCTANCE.
Organic Electronics, (2012), vol. 13, 1844-1852.

Alejandro González Orive, Doris Grumelli, Carolina Vericat, J.M. Ramallo, L. Giovanetti, Guillermo Benítez, J. Azcárate, Félix .G. Requejo, Alberto Hernández Creus and Roberto C. Salvarezza.
"NAKED" GOLD NANOPARTICLES SUPPORTED ON HOPG: MELANIN FUNCTIONALIZATION AND CATALYTIC ACTIVITY.
Nanoscale, (2011), vol. 3, 1708-1716.

C.2. Research Projects and Grants

Título del proyecto: MOLÉCULAS BIOACTIVAS EN MICROALGAS MARINAS
Entidad financiadora: Ministerio de Ciencia e Innovación. Ref. PID2019-109476RB-C21
Entidades participantes: Universidad de La Laguna, Instituto Universitario de Bioorgánica Antonio González
Duración, desde: 01/01/2020 hasta: 31/12/2022
Investigador responsable: Javier Fernández Castro / Antonio Hernández Daranas.
Número de investigadores participantes: 7
IMPORTE TOTAL DEL PROYECTO: 110.000,00 €

Title: Materiales avanzados para aplicaciones energéticas impresos en 3d.
Funding Institution: Ministerio de Economía y Competitividad. ENE2016-74889-C4-2-R
Participant Institution: Instituto Universitario de Materiales y Nanotecnología (IMN) y Universidad de La Laguna
Period, from: Jan-01-2017 to: Dec-31-2019
Supervisor: Dr. Pedro Esparza Ferrera
Members of the Research Group: 5
Amount of subsidy: 150.000,00 €

Title: Síntesis, caracterización fisicoquímica y aplicaciones de electrodos nano y micro estructurados con moléculas orgánicas de interés biológico.
Funding Institution: Ministerio de Ciencia e Innovación, ref. CTQ2011-24784.
Participant Institution: Universidad de La Laguna
Period, from: Jan-01-2012 to: Dec-31-2014

Supervisor: Dr. Alberto Hernández Creus

Members of the Research Group: 5

Amount of subsidy: 81.000,00 €

Title: Preparación, Caracterización y Aplicaciones de Electrodo Nanoestructurados con moléculas bioorgánicas conteniendo iones metálicos.

Funding Institution: Ministerio de Ciencia e Innovación, ref. CTQ2008-06017/BQU

Participant Institution: Universidad de La Laguna

Period, from: Jan-01-2009 to: Dec-31-2011

Supervisor: Dr. Alberto Hernández Creus

Members of the Research Group: 9

Amount of subsidy: 104.000,00 €

Title: Preparación, Caracterización y Aplicaciones de Electrodo Nanoestructurados Biosensibles.

Funding Institution: Ministerio Educación y Ciencia, Dirección General de Investigación, CTQ2005-03222/BQU

Participant Institution: Universidad de La Laguna

Period, from: Jan-01-2006 to: Dec-31-2008

Supervisor: Dr. Alberto Hernández Creus

Members of the Research Group: 6

Amount of subsidy: 60.500 €

C.3. Contracts

C.4. Patents and other IPR

C.5, C.6, C.7... Other

Director of the Department of Chemistry at University of La Laguna (2016-2023).

Head of the AFM Laboratory of the General Research Services at the University of La Laguna.

Supervisor and member of an international collaboration project between the Physical Chemistry Unit of the Department of Chemistry of University of La Laguna and Instituto de Investigaciones Teóricas y Aplicadas (INIFTA), University of La Plata, Argentina. Title: Diseño, preparación y caracterización de superficies modificadas en la nanoescala como soportes de moléculas y/o biomoléculas que cumplan funciones específicas (2021-2025).

Participation in assesment and advisory task in the I+D+i National Research Plan (Spain) in 2004-2007 and 2008-2011 periods; FPI Program of MINECO 2015; FONCyT-PME 2003 and FONCyT PECT 2013 (Argentina).

Member of the organization comitee in XXX REUNIÓN DEL GRUPO DE ELECTROQUÍMICA DE LA R.S.E.Q. Y XI ENCONTRO IBÉRICO DE ELECTROQUÍMICA (Adeje, Tenerife, 19-22 of July of 2009).

Member of the scientific comitee in FOURTH LATIN AMERICAN SYMPOSIUM ON SCANNING PROBE MICROSCOPY (Mar del Plata, Argentina. May, 2-4, 2007).