

Curriculum



Nome Name:	Daniel
Cognome Surname:	FARIAS

ORCID:	0000-0002-8537-8074
Scopus Author ID:	L-2435-2013
WOS Author ID:	n.d.
Sito WEB WEB site:	n.d.

POSIZIONE PROFESSIONALE ATTUALE / CURRENT PROFESSIONAL POSITION:

Posizione attuale Current position:	In service
Qualifica Qualification:	Full professor
Ateneo/Ente/Azienda University/Institution/Company:	Universidad Autónoma de Madrid
Nazione Ateneo/Ente/Azienda University/Institution/Company Country:	ESP
Anno inizio Start Year:	2000
Anno fine End Year:	n.d.

PRECEDENTI ESPERIENZE LAVORATIVE (ULTIMI 10 ANNI) / PREVIOUS WORK EXPERIENCE (LAST 10 YEARS):

Qualifica Qualification:	Research contract (art.22 L.79/2022)
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Ateneo/Ente/Azienda University/Institution/Company	Freie Universität Berlin
Posizione Sede Lavorativi (indicare Nazione e Città) Workplace Location (specify Country and City):	n.d.
Anno inizio Start Year:	1996
Anno fine End Year:	1999
Descrizione Description:	Postdoctoral researcher

LINGUE / LANGUAGES:

Lingua Language:	English
Scrittura Writing:	C1
Comunicazione Communication:	C1

Lingua Language:	German
Scrittura Writing:	C1
Comunicazione Communication:	C1

Lingua Language:	Italian
Scrittura Writing:	A2
Comunicazione Communication:	B1

AREA/SETTORE SCIENTIFICO-DISCIPLINARE / AREA/SECTOR SCIENTIFIC-DISCIPLINARY

Area scientifico-disciplinare Area scientific-disciplinary:	Scienze fisiche
Area scientifico-disciplinare codice Area scientific-disciplinary code:	02
Settore scientifico-disciplinare codice Sector scientific-disciplinary code:	-Fisica sperimentale della materia e applicazioni
Settore scientifico-disciplinare codice Sector scientific-disciplinary code:	-PHYS-03/A

**DESCRIZIONE DEI PRINCIPALI RISULTATI SCIENTIFICI
CONSEGUITI NEGLI ULTIMI 10 ANNI (CON ANNESSO ELENCO DI
MASSIMO 10 PUBBLICAZIONI) / DESCRIPTION OF THE MAIN
SCIENTIFIC RESULTS ACHIEVED IN THE LAST 10 YEARS (WITH
ATTACHED LIST OF MAXIMUM 10 PUBLICATIONS):**

Descrizione Description:	1- A. Al Taleb et al. <i>Electron-Phonon Coupling and Phonon Dynamics in Single-Layer NbSe₂ on Graphene: The Role of Moiré Phonons</i>. ACS Nano 19, 8895 (2025). 2- A. Al Taleb et al. <i>Simulating high-pressure surface reactions with molecular beams</i>. PCCP 26, 1770 (2024). 3-Z. Hu, L. Zhang, et al. <i>Terahertz Nonlinear Hall Rectifiers Based on Spin-Polarized Topological Electronic States in 1T-CoTe₂</i>. Advanced Materials 35, 2209557 (2023). 4- S. Abramovich, et al. <i>NiSe and CoSe Topological Nodal-Line Semimetals: A Sustainable Platform for Efficient Thermoplasmonics and Solar-Driven Photothermal Membrane Distillation</i>. Small 18, 2201473 (2022). 5- G. Anemone, P. Casado, M. Garnica, F. Calleja, A. Al Taleb; Ch. Kuo, C. Shan Lue, A. Politano, A.L. Vázquez De Parga, G. Benedek, D. Farías, R. Miranda. <i>Electron-phonon coupling in superconducting 1T-PdTe₂</i>. npj 2D Materials and Applications. 5, 1-7 (2021). 6-A. Al Taleb, G. Anemone, L. Zhou, H. Guo, D. Farías. <i>Diffraction of CH₄ from a Metal Surface</i> The Journal of Physical Chemistry Letters 10 (7), 1574 (2019). 7-N. Akhtar, G. Anemone, D. Farías, B. Holst. <i>Fluorinated graphene provides long lasting ice inhibition in high humidity</i>. Carbon 141, 451 (2019). 8-A. Politano et al. <i>Unveiling the mechanisms leading to H₂ production promoted by water decomposition on epitaxial graphene at room temperature</i>. ACS Nano 10, 4543 (2016). 9-A. Al Taleb, D. Farías. <i>Phonon dynamics of graphene on metals</i>. Journal of Physics: C. 28 (10), 103005 (2016).
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PUBBLICAZIONI / PUBLICATIONS:

Anno della pubblicazione Year of publication:	2025
Citazione Citation:	ACS Nano 19, 8895 (2025).

Anno della pubblicazione Year of publication:	2023
Citazione Citation:	Advanced Materials 35, 2209557 (2023).

Anno della pubblicazione Year of publication:	2006
Citazione Citation:	Science 312, 64 (2006).

Anno della pubblicazione Year of publication:	2007
Citazione Citation:	Nature 448, 57 (2007).

Anno della pubblicazione Year of publication:	1998
Citazione Citation:	Rep. Prog. Phys. 61, 1575 (1998).

DESCRIZIONE DEI PRINCIPALI PROGETTI DI RICERCA E PREMI CONSEGUITI NEGLI ULTIMI 10 ANNI (CON ANNESSO ELENCO DI MASSIMO 10 RISULTATI, INCLUDENDO, A TITOLO DI ESEMPIO, PRINCIPAL INVESTIGATOR O COORDINATORE LOCALE DI PROGETTI DI RICERCA COMPETITIVI NAZIONALI O INTERNAZIONALI, SIGNIFICATIVI PREMI CONSEGUITI PER LA PROPRIA ATTIVITÀ DI RICERCA)/ DESCRIPTION OF THE MAIN RESEARCH PROJECTS AND AWARDS AWARDED IN THE LAST 10 YEARS (WITH ATTACHED LIST OF MAXIMUM 10 ACHIEVEMENTS, INCLUDING, FOR EXAMPLE, PRINCIPAL INVESTIGATOR OR LOCAL COORDINATOR OF NATIONAL OR INTERNATIONAL COMPETITIVE RESEARCH PROJECTS, SIGNIFICANT AWARDS AWARDED FOR YOUR RESEARCH ACTIVITY):

Descrizione Description:	1-Project name: ACTIVATION OF GREENHOUSE GASES FOR CLEAN ENERGY APPLICATIONS: A COMBINED MOLECULAR BEAMS AND XPS STUDY Principal investigator: PROF. DANIEL FARÍAS Funding entity: Ministerio de Ciencia e Innovación (PID2023-147466OB-C21) Start-end date: 01/09/2024 - 31/08/2027 Funding obtained: 133.250 Euros 2-Project name: ACTIVATION OF GREENHOUSE GASES FOR CLEAN ENERGY FUELS: A COMBINED MOLECULAR BEAMS AND XPS STUDY Principal investigator: PROF. DANIEL FARÍAS / PROF. JOSÉ ENRIQUE ORTEGA Funding entity: Ministerio de Ciencia e Innovación (TED2021-130446B-I00) Start-end date: 01/12/2022 - 30/11/2024 Funding obtained: 125.270 Euros 3-Project name: GRAFENO Y MATERIALES BIDIMENSIONALES PARA APLICACIONES EN ENERGÍA LIMPIA Principal investigator: PROF. DANIEL FARÍAS Funding entity: Ministerio de Ciencia e Innovación (PID2019-109525RB-I00) Start-end date: 01/06/2020 - 31/05/2023 Funding obtained: 30.250 Euros 4- Project name: MULTI-FUNCTIONAL ICEPHOBIC, ROBUST, LIGHTWEIGHT AND TRANSPARENT COATINGS FOR WINDOWS AND LENSES Principal investigator: PROF. DANIEL FARÍAS Funding entity: NORCE Norwegian Research Centre AS Start-end date: 01/09/2019 -
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	28/02/2022 Funding obtained: 36.887 Euros 5- Project name: MULTI-FUNCTIONAL ICEPHOBIC, ROBUST, LIGHTWEIGHT AND TRANSPARENT COATINGS FOR WINDOWS AND LENSES Principal investigator: PROF. DANIEL FARÍAS Funding entity: Ice Guard Coating AS (Norway) Start-end date: 01/09/2019 - 28/02/2022 Funding obtained: 39.925 Euros 6- Project name: MATERIALES Y DISPOSITIVOS HÍBRIDOS BASADOS EN GRAFENO PARA APLICACIONES EN ENERGÍA Y DETECCIÓN ÓPTICA Principal investigator: PROF. DANIEL FARÍAS Funding entity: Ministerio de Ciencia (MAT2015-65356-C3-3-R) Start-end date: 01/01/2016 - 31/12/2019 Funding obtained: 48.400 Euros 7- Project name: SCANNING NEUTRAL HELIUM MICROSCOPY (NEMI) Principal investigator: PROF. DANIEL FARÍAS Funding entity: European Union Start-end date: 01/03/2013 - 31/08/2016 Funding obtained: 3,731.488 Euros (418.900 Euros Spanish part)
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DESCRIZIONE DEI PRINCIPALI RISULTATI CONSEGUITI NEGLI ULTIMI 10 ANNI IN TERMINI DI SVILUPPO DI RETI E RELAZIONI SCIENTIFICHE NAZIONALI E INTERNAZIONALI (CON ANNESSO ELENCO DI MASSIMO 5 RISULTATI, INCLUDENDO, A TITOLO DI ESEMPIO, PARTECIPAZIONE O ORGANIZZAZIONE DI CONVEGNI NAZIONALI E INTERNAZIONALI; CONTRIBUTI A CONSORZI DI RICERCA) / DESCRIPTION OF THE MAIN RESULTS ACHIEVED IN THE LAST 10 YEARS IN TERMS OF DEVELOPMENT OF NATIONAL AND INTERNATIONAL SCIENTIFIC NETWORKS AND RELATIONS (WITH ATTACHED LIST OF MAXIMUM 5 RESULTS, INCLUDING, FOR EXAMPLE, PARTICIPATION OR ORGANIZATION OF NATIONAL AND INTERNATIONAL CONFERENCES; CONTRIBUTIONS TO RESEARCH CONSORTIA):

Descrizione Description:	Most recent invited talks: 1- "Simulating high-pressure surface reactions with molecular beams." Gordon Conference on Dynamics at Surfaces. Holderness, New Hampshire (USA), 21/07/2025 2- "Simulating high-pressure surface reactions with molecular beams." Sixth International Conference on Scattering of Atoms and Molecules from Surfaces. Ulm (Germany), 09/09/2025 3- "The road to high-performance anti-icing transparent windows via graphene coatings." 20th International Conference on Diffusion in Solids and Liquids (DSL-2024). Barcelona (Spain), 26/06/2024 4- "Electron-phonon coupling and thermal expansion in superconducting 2D materials." Fifth International Workshop on Scattering of Atoms and Molecules from Surfaces. Cambridge (UK), 12/09/2022. 5- "Diffraction of CH₄ from a metal surface." XXVIII International Symposium on Molecular Beams (ISMB 2019). Edinburgh (UK), 26/06/2019 6- "Inelastic He scattering from graphene on metals." 22nd International Workshop on Inelastic
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	<i>Ion-Surface Collisions. Dresden (Germany), 20/09/2017</i>
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DESCRIZIONE DEI PRINCIPALI RISULTATI CONSEGUITI NEGLI ULTIMI 10 ANNI IN TERMINI DI SUPPORTO ALLA COMUNITÀ SCIENTIFICA (CON ANNESSO ELENCO DI MASSIMO 5 RISULTATI, INCLUDENDO, A TITOLO DI ESEMPIO, RESPONSABILITÀ DI DIREZIONE DI COMITATI EDITORIALI; INCARICHI DI VALUTAZIONE DELLA RICERCA PRESSO ISTITUZIONI NAZIONALI O INTERNAZIONALI; RESPONSABILITÀ ISTITUZIONALI ALL'INTERNO DELL'ISTITUZIONE DI APPARTENENZA O DI ALTRE ISTITUZIONI) / DESCRIPTION OF THE MAIN RESULTS ACHIEVED IN THE LAST 10 YEARS IN TERMS OF SUPPORT TO THE SCIENTIFIC COMMUNITY (WITH ATTACHED LIST OF MAXIMUM 5 RESULTS, INCLUDING, FOR EXAMPLE, MANAGEMENT RESPONSIBILITIES OF EDITORIAL COMMITTEES; RESEARCH EVALUATION ROLES AT NATIONAL OR INTERNATIONAL INSTITUTIONS; INSTITUTIONAL RESPONSIBILITIES WITHIN THE INSTITUTION OF AFFILIATION OR OTHER INSTITUTIONS):

Descrizione Description:	<i>Expert experience: Long experience (since 2011) as reviewer of proposals for different EU programs: Erasmus Mundus Joint Master Degrees EMJMD (also as Vice-Chair), EMJMD Partnership with Japan, Erasmus+ EMJM, Marie Skłodowska-Curie Individual Fellowships (also as Vice-Chair), Intra-Africa Academic Mobility Scheme, Capacity Building in Higher Education (CBHE), European Research Council (ERC Consolidator Grant 2017). Reviews proposals for: Gonville & Caius Research Fellowships (UK), Isaac Newton Trust (UK), BSF (United States-Israel Binational Science Foundation), ANR (Agence Nationale de la Recherche, France), A*MIDEX Foundation (Aix-Marseille University Excellence Initiative, France), ANEP (Spain), Agencia Andaluza del Conocimiento (DEVA), Argentina (FONCYT), ANVUR (Italy), Chile (Innova Chile - CORFO) and Slovak Research and Development Agency (Slovakia). Member of the PhD board of several Universities and research centers, including Cambridge University, University of Graz, Humboldt Universitaet zu Berlin, Institut Laue-Langevin, Indian Institute of Technology, École Polytechnique Fédérale de Lausanne, The University of Newcastle.</i>
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DESCRIZIONE DEI PRINCIPALI RISULTATI CONSEGUITI NEGLI ULTIMI 10 ANNI IN TERMINI VALORIZZAZIONE DELLE CONOSCENZE (CON ANNESSO ELENCO DI MASSIMO 3

**RISULTATI, RELATIVI ALLA PARTECIPAZIONE DEL CANDIDATO
ALLE ATTIVITÀ DI VALORIZZAZIONE DELLE CONOSCENZE) /
DESCRIPTION OF THE MAIN RESULTS ACHIEVED IN THE LAST 10
YEARS IN TERMS OF KNOWLEDGE VALORIZATION (WITH
ATTACHED LIST OF MAXIMUM 3 RESULTS, RELATING TO THE
CANDIDATE'S PARTICIPATION IN KNOWLEDGE VALORIZATION
ACTIVITIES):**

Descrizione Description:	
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Informazioni aggiornate alla data di candidatura 22-10-2025

Daniel FARIAS

Il presente curriculum costituisce allegato e parte integrante dell'incarico sottoscritto