

CURRICULUM VITAE ABREVIADO (CVA)

IMPORTANT – The Curriculum Vitae cannot exceed 4 pages. Instructions to fill this document are available in the website.

Part A. PERSONAL INFORMATION

ARTIST PERSONAL INFORMATION			
First name	ENRIQUE		
Family name	GIMÉNEZ TORRES		
Gender (*)	MALE	Birth date (dd/mm/yyyy)	
Social Security, Passport, ID number			
e-mail	enrique.gimenez@mcm.upv.es	URL Web	
Open Researcher and Contributor ID (ORCID) (*)		0000-0002-6330-0209	

(*) Mandatory

A.1. Current position

Position	Full Professor (CU)		
Initial date	11/03/2016		
Institution	UNIVERSITAT POLITÈCNICA DE VALÈNCIA		
Department/Center	INSTITUTO DE TECNOLOGÍA DE MATERIALES		
Country	SPAIN	Teleph. number	963877624
Key words	Nanocomposites; 2D material; functional nanomaterials; aerogels		

A.2. Previous positions (research activity interruptions, indicate total months)

Period	Position/Institution/Country/Interruption cause
1997-2009	Professor/Universitat Jaume I/Castellón (SPAIN)

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Industrial Engineering	Universitat Politècnica de València	1995
PhD Industrial Engineering	Universitat Jaume I de Castellón	2001

(Include all the necessary rows)

Part B. CV SUMMARY (max. 5000 characters, including spaces)

He has actively contributed to 30 competitive research projects funded by national and European organizations, serving as Principal Investigator (PI) in 26 of them. He has authored over 100 scientific publications in *Science Citation Index*-listed journals (Scopus h-index: 34), amassing more than 4,000 citations. His academic career includes impactful short-term stays as a visiting professor at prestigious institutions such as the University of Wisconsin (USA), the University of Toronto (Canada), the University of Akron (USA), and Purdue University (USA). His commitment to technology transfer is demonstrated by the co-authorship of seven patents, complemented by five recognized six-year research terms (sexenios) that underscore his research excellence.

His primary research focus has been the development of polymeric nanocomposites for practical applications. His career began at the Universitat Jaume I of Castellón (UJI), where he specialized in the development of advanced packaging materials with enhanced barrier properties, consolidating a dedicated research group. During this period, significant progress was achieved through the incorporation of clay nanofillers into polymer matrices, leading to several patents and the establishment of the spin-off Nanobiomatters SL in 2005.

Upon joining the Universitat Politècnica de València (UPV) in 2009, his research expanded into nanocomposites reinforced with carbonaceous fillers (e.g., carbon nanotubes, graphene), crystalline nanocellulose, and metal-organic frameworks (MOFs) for diverse applications. This work was supported by several national and European projects, including the CONTACT project funded by the European Union under the Marie Curie Initial Training Networks, which advanced the understanding of carbon nanotube synthesis, processing, and applications. Additionally, his expertise extended to the energy sector, focusing on the synthesis of electrospun nanofibers and MOFs such as ZIF-8, ZIF-67, and UIO-66. These nanofillers were integrated into high-temperature polymer matrices like polybenzimidazole (PBI) and sulfonated polyether ether ketone (SPEEK) as part of the FIBERCELLS project.

In recent years, his research has pivoted toward hierarchical 3D porous nanostructures using graphene oxide (GO) nanofillers for applications such as CO₂ capture and oil adsorption. This work formed part of the European GRAMOFON project (*New process for efficient CO₂ capture by innovative adsorbents based on modified graphene aerogels and MOF materials*).

More recently, his efforts have focused on MXenes, a novel family of 2D transition metal carbides and nitrides. Through the MOBACT project, he has explored various synthesis routes and applications of MXenes. His research includes investigating their catalytic activity and electromagnetic interference (EMI) shielding properties, which led to the recent filing of a patent on MXene Ti₃C₂T_z. His expertise in exfoliation, intercalation, and surface modification of graphene-based materials has enabled the development of MXene-rGO aerogels with an optimal balance of elasticity and mechanical stability. To further expand his collaborations on MXene research, he undertook a short-term research stay in 2024 with Prof. Babak Anasori's group at Purdue University. Prof. Anasori (h-index: 97) is one of the pioneers, alongside Prof. Yury Gogotsi (Drexel University), in the discovery of MXenes in 2011.

In summary, his current research lines are focused on (1) Polymeric nanocomposites: structure-properties relationship in organic-inorganic hybrid systems; (2) Hierarchical nanostructured porous materials; (3) Functional nanomaterials.

Additionally, he serves as an editor for the Journal of Plastics Technology and participates actively in committees for the selection and evaluation of scientific proposals at regional and national levels. Since 2009, he has also served as a scientific advisor for the Technological Center AIMPLAS.

Part C. RELEVANT MERITS (sorted by typology)

C.1. Publications (see instructions)

1. TITLE: Impact of Raster Angle on 3D Printing of Poly(Lactic Acid)/Thermoplastic Polyurethane Blends: Effects on Mechanical and Shape Memory Properties
AUTHORS: Sonseca A.; Lluch J.; Ruedas V.; Rovira L.; Mazzinari G.; Giménez E.
Macromol. Mater. Eng (2025), 2400427; doi.org/10.1002/mame.202400427
IMPACT INDEX: 4.2 QUARTILE:Q1 SOURCE OF IMPACT: JCR
2. TITLE: Ti₃C₂T_x Electromagnetic Shielding Performance: Investigating Environmental Influences and Structural
AUTHORS: Barjola A.; Herráiz R.; Amaro A.; Torres J.; Suárez A.; Giménez E.
Adv. Electron. Mater. (2024), 2400024; doi.org/10.1002/aelm.202400024
IMPACT INDEX: 6.2 QUARTILE:Q1 SOURCE OF IMPACT: JCR
3. TITLE: Titanium MXenes as novel heterogeneous catalysts for the selective oxidation of styrene to benzaldehyde: Influence of the etching conditions
ChemCatChem, (2024) e202301599; doi.org/10.1002/cctc.202301599
IMPACT INDEX: 6.348 QUARTILE:Q1 SOURCE OF IMPACT: JCR
4. TITLE: AgBTC MOF-Mediated Approach to Synthesize Silver Nanoparticles Decorated on Reduced Graphene Oxide (rGO@Ag) for Energy Storage Applications
AUTHORS: Barjola A.; Rapeyko A.; Sahuquillo O.; Llabrés i Xamena F.X.; Giménez E. M

- ACS Appl. Energy Mater. (2023), 6, 18, 9159–9169; doi.org/10.1021/acsaem.2c03872
IMPACT INDEX: 6.4 QUARTILE:Q1 SOURCE OF IMPACT: JCR
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5. TITLE: Enhanced antibacterial activity through silver nanoparticles deposited onto carboxylated graphene oxide surface
AUTHORS: Barjola A.; Tormo-Mas M^a A.; Sahuquillo O.; Bernabé-Quispe P.; Pérez J.M.; Giménez E. M
Nanomaterials, 12(12), 1949(2022); DOI: 10.3390/nano12121949
IMPACT INDEX: 4.4 QUARTILE:Q1 SOURCE OF IMPACT: JCR
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6. TITLE: Hydrothermal-Freezing-Casting of Poly(amidoamine)-Modified Graphene Aerogels towards CO₂ Adsorption
AUTHORS: Pruna A.; Cárcel A.; Benedito A.; Giménez, E.
International Journal of Molecular Sciences, 22, 9333 (2021); DOI: 10.3390/ijms22179333
IMPACT INDEX: 5.924 QUARTILE:Q1 SOURCE OF IMPACT: JCR
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7. TITLE: Novel SPEEK-ZIF-67 Proton Exchange Nanocomposite Membrane for PEMFC Application at Intermediate Temperatures
AUTHORS: Barjola A.; Reyes-Rodríguez J.L.; Solorza-Feria O.; Giménez E.; Compañ V
Industrial & Engineering Chemistry, 60(25), 9107-9118 (2021); DOI: 10.1021/acs.iecr.1c01780
IMPACT INDEX: 6.1 QUARTILE:Q1 SOURCE OF IMPACT: JCR
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8. TITLE: The Effect of Solvothermal Conditions on the Properties of Three-Dimensional N-Doped Graphene Aerogels
AUTHORS: Pruna A.; Cárcel A.; Benedito A.; Giménez, E.
Nanomaterials, 9, 350 (2019); DOI: 10.3390/nano9030350
IMPACT INDEX:4.514 QUARTILE:Q1 SOURCE OF IMPACT: JCR
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9. TITLE: Nanorings and rods interconnected by self-assembly mimicking an artificial network of neurons
AUTHORS: Escárcega-Bobadilla M.; et al.
Nature Communications, 4, 2648 (2013); DOI: 10.1038/ncomms3648
IMPACT INDEX:10.74 QUARTILE:Q1 SOURCE OF IMPACT: JCR
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C.2. Congress, indicating the modality of their participation (invited conference, oral presentation, poster)

C.3. Research projects

1. PROJECT TITLE: Development of non-standardized measurement methods and new 2D materials with high efficiency for electromagnetic shielding in 5G mobility applications (EMI5G)
FUNDING ENTITY: Universitat Politècnica de València PAID 11-23
DURATION FROM: 01/01/2024 TO: 15/07/2025
PRINCIPAL INVESTIGATOR (IP): Dr. Enrique Giménez Torres
SUBSIDY AMOUNT: 15.000€ TOTAL NUMBER OF PROJECT RESEARCHERS: 4

1. PROJECT TITLE: Hydroponic crops for urban infrastructures based on substrates with DAC systems (environmental CO₂ capture) (TERRAX)
FUNDING ENTITY: Agencia Valenciana de la Innovación (AVI) INNEST/2021/94
DURATION FROM: 01/06/2021 TO: 01/07/2023
PRINCIPAL INVESTIGATOR (IP): Dr. Enrique Giménez Torres
SUBSIDY AMOUNT: 117.334€ TOTAL NUMBER OF PROJECT RESEARCHERS: 4

2. PROJECT TITLE: Prevention of nosocomial infections through the development of hybrid bacteriostatic and / or bactericidal materials for sanitary furniture (MOBACT)
FUNDING ENTITY: Agencia Valenciana de la Innovación (AVI)
DURATION FROM: 01/07/2020 TO: 31/12/2022
PRINCIPAL INVESTIGATOR (IP): Dr. Enrique Giménez Torres
SUBSIDY AMOUNT: 117.574€ TOTAL NUMBER OF PROJECT RESEARCHERS: 3

3. PROJECT TITLE: Prevention of healthcare-associated infections by implementing multifunctional biocidal systems based on MOF and graphene nanostructured materials (MULTICIDE)
FUNDING ENTITY: Agencia Valenciana de la Innovación (AVI)
DURATION FROM: 12/03/2019 TO: 12/01/2021
PRINCIPAL INVESTIGATOR (IP): Dr. Enrique Giménez Torres
SUBSIDY AMOUNT: 106.768€ TOTAL NUMBER OF PROJECT RESEARCHERS:3
4. PROJECT TITLE: New process for efficient CO₂ capture by innovative adsorbents based on modified graphene aerogels and MOF materials. (GRAMOFON)
FUNDING ENTITY: H2020-LCE-24-2016: International Cooperation with South Korea on new generation high-efficiency capture processes (Third Party)
DURATION FROM: 01/10/2016 TO: 31/03/2020
PRINCIPAL INVESTIGATOR (IP): Dr. Enrique Giménez Torres
SUBSIDY AMOUNT: 104.625€ TOTAL NUMBER OF PROJECT RESEARCHERS: 4
5. PROJECT TITLE: Development and Evaluation of Novel Nanofiber Reinforced Polymeric Membranes for Application in High Thermal Stability Fuel Cells (FIBERCELLS)
FUNDING ENTITY: MINECO (ENE2015-69203-R)
DURATION FROM: 2016 TO: 2017
PRINCIPAL INVESTIGATOR (IP): Dr. Enrique Giménez Torres; Dr. Vicente Compañ
SUBSIDY AMOUNT: 149.000€ TOTAL NUMBER OF PROJECT RESEARCHERS: 6

C.4. Contracts, technological or transfer merits.

1. INVENTORS: Giménez-Torres E; Benedito-Borras A.; Barjola-Ruiz A.; Sopeña de Frutos S.
TITLE: "High-efficiency heterogeneous catalysts based on transition metal carbides -MXenes- for the conversion of CO₂ into cyclic carbonates" (P202330864 patent PCT) PRIORITY DATE:2023
ASSIGNEE: Universitat Politècnica de València-Instituto Tecnológico del Plástico (AIMPLAS)
2. INVENTORS: Giménez-Torres E; Sonseca-Olalla A.; Cárcel-González A; Sahuquillo O.
TITLE: "Non-woven bioelastomer composite"
APPLICATION NUMBER: WO 2017/212102 A1 PRIORITY COUNTRY: Spain PRIORITY DATE: 2016
ASSIGNEE: Universitat Politècnica de València
3. INVENTORS: Ramón Raygoza E.; Rivera Solorio C.; Giménez Torres E
TITLE: "Lubricating oil for automotive and industrial applications, containing decorated graphene"
APPLICATION NUMBER: WO2015034340-A1 PRIORITY COUNTRY: Mexico PRIORITY DATE: 2014
ASSIGNEE: Instituto Tecnológico y Estudios Superiores
4. INVENTORS: Ramón Raygoza E.; Rivera Solorio C.; Giménez Torres E
TITLE: "Dielectric mineral oil conditioned with graphene nanoflakes"
APPLICATION NUMBER: WO 2014065647 A1 PRIORITY COUNTRY: Mexico PRIORITY DATE: 2012
ASSIGNEE: 1)Prolec GE; 2) Instituto Tecnológico y Estudios Superiores
5. INVENTORS: Giménez E; Lagarón J.M.; Villanueva M^ªP.
TITLE: "Polymeric matrix nanocomposite materials having improved mechanical and barrier properties and procedure for preparing same"
APPLICATION NUMBER: WO2010004074-A1 PRIORITY COUNTRY: Spain PRIORITY DATE: 2009
ASSIGNEE: NanoBioMatters S.L.
6. INVENTORS: Lagarón J.M.; Sánchez M^ªD.; Giménez E.
TITLE: "Novel nanocompound materials with infrared, ultraviolet and visible electromagnetic radiation blocking properties and method for obtaining them"
APPLICATION NUMBER: WO2009065986-A1 PRIORITY COUNTRY: Spain PRIORITY DATE: 2008
ASSIGNEE: NanoBioMatters S.L.
7. INVENTORS: Lagarón J.M.; Giménez E.; Cabedo L.
TITLE: Method for producing nanocomposite materials for multi-sectorial application
APPLICATION NUMBER: WO 2007/074184 A1 PRIORITY COUNTRY: Spain PRIORITY DATE: 2007
ASSIGNEE: NanoBioMatters S.L.