MINISTERIO DE CIENCIA E INNOVACIÓN

AGENCIA ESTATAL DE INVESTIGACIÓN

Cofinanciado por la Unión Europea

CURRICULUM VITAE (CVA)

CV date	10/04/2025

Part A. PERSONAL INFORMATION

First name	Marcelo E.		
Family name	Domine Maccari		
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]		
[redacted]	[redacted]	[redacted]	
[redacted]		[redacted]	
[redacted]			

A.1. Current position

Position	Científico Titular del CSIC		
Initial date	11/09/2009		
Institution	Consejo Superior de Investigaciones Científicas - CSIC		
Department/Center	Instituto de Tecnología Química, ITQ (UPV – CSIC)		
Country	Spain	Teleph. number	963879696
Key words	Heterogeneous catalysis, nanostructured materials, acid/base and redox processes, biomass transformation		

A.2. Previous positions (research activity interruptions, art. 14.2.b)

Period	Position/Institution/Country/Interruption cause
01/01/2008 -10/09/2009	Ramón y Cajal Research Contract / CSIC / Spain / ---
01/09/2007 - 31/12/2008	Titulado Superior (Contract) / ITQ, UPV-CSIC) / Spain / ---
16/05/2004 - 31/08/2007	Associated Researcher (Contract) / CNRS / France / ---
01/06/2004 - 15/05/2005	Titulado Superior (Contract) / ITQ, UPV-CSIC) / Spain / ---
01/11/2003 - 31/05/2004	Fellowship / ITQ, UPV-CSIC) / Spain / ---
01/04/2000 - 31/10/2000	Pre-doc Fellowship / ITQ, UPV-CSIC) / Spain / ---
17/02/1998 - 31/03/2000	Fellowship / ITQ, UPV-CSIC) / Spain / ---
01/04/1996 – 16/02/1998	Professor-Researcher / Univ. Nac. Córdoba / Argentine / ---

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
PhD in Chemistry	Universidad Politécnica de Valencia / Spain	2003
Master in Chemical Sciences	Universidad Nacional de Córdoba / Argentine	1996
Licensed in Chemistry	Universidad Nacional de Córdoba / Argentine	1992

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

M.E. Domine obtained his Bachelor (1992) and Master (1996) degrees in Chemistry from the Universidad Nacional de Córdoba (Argentine). He completed his PhD at the Universitat Politècnica de

València (Spain) in 2003 under the guidance of Prof. A. Corma. Then, he carried out postdoctoral research at the IRCELYON-CNRS (France 2005-07). In 2008, he re-joined Prof. A. Corma's group as a Ramon y Cajal researcher of CSIC. Since 2009, he has developed his work as Tenured Scientist of CSIC at Instituto de Tecnología Química (ITQ, UPV-CSIC), Spain. His current work as research group leader at ITQ (UPV-CSIC) involves the synthesis and characterization of nano-structured materials based on supported metal nano-particles and metallic mixed oxides, and their application as heterogeneous catalysts in acid–base and redox reactions; mainly focusing on the development of novel and sustainable chemical processes for the transformation of renewable raw materials (biomass and its derivatives, municipal wastes, etc.) into valuable chemical products.

M.E. Domine is co-author of more than 70 scientific publications appearing in high-cited index journals **(h Index = 27) and of 30 patent applications**. He has presented his work in more than 100 (national and international) congresses and has given more than 30 invited conferences. In addition,  he has participated in 40 public funded projects being the principal researcher of 19 of them. **He has been Director of 5 PhD, actually supervising 2 more PhD thesis, as well as 18 Master thesis (16 finished and 2 currently in progress)**. One important part of his research work is centered in the development of catalytic industrial processes in collaboration with private companies, **participating in 27 contracts with industry, thus resulting in 30 patents applications (>10 in the last 7-8 years)**.

Part C. RELEVANT MERITS *(Selected from last 3 years)*

C.1. Publications

1- A. Fernández-Arroyo, J.M. López-Nieto, M.E. Domine (CA). Novel Sn-Nb-based catalysts with enhanced acidity and water resistance for the aqueous-phase condensation of light oxygenated compounds. ChemCatChem (2025) e202402045, (DOI: 10.1002/cctc.202402045).

2- B. Torres-Olea, G. Rodríguez-Carballo, R. Moreno-Tost, M.E. Domine, J.A. Cecilia, P. Maireles-Torres, C. García Sancho (CA). Application of a two-step water-MIBK-ethanol biphasic system in the production of EMF from glucose. Renewable Energy (2024), 12216, (DOI: 10.1016/j.renene.2024.122125).

3- A. Fernández-Arroyo, M.E. Domine (CA). Rutile-phase Sn-Ti mixed oxides as acid catalysts for the aqueous-phase condensation of light oxygenated compounds. ChemSusChem (2024), e202401761, (DOI: 10.1002/cssc.202401761).

4- M. Ortega; B. Garrido; D. Gomez; A.A. Fernández-Andrade; M.E. Domine; R. Jiménez; L.E. ArteagaPérez (CA). Mechanisms and kinetic modelling of phenol direct amination on carbon-supported Pd and Rh catalysts. ChemCatChem (2024), e202401476, (DOI: 10.1002/cctc.202401476).

5- J. Mazarío, D. Jampaiah, P. Concepción, P. Villasante-Iturria, K. Wilson, A. Lee, M.E. Domine (CA). Structure-reactivity relations in Cu/ZrO2 catalysed glycerol dehydration to acetol in continuous flow system. Catalysis Science & Technology (2024), 14, 3878-3892, (DOI: 10.1039/d4cy00220b).

6- V.R. Elías, G.O. Ferrero, M.G. Idriceanu, G.A. Eimer, M.E. Domine (CA). From biomass-derived furans to aromatic compounds: Design of Al-Nb-SBA-15 mesoporous structures and study of their acid properties on catalytic performance. Catalysis Science & Technology (2024), 14, 1488-1500 (DOI: 10.1039/D4CY00033A).

7- M. Ortega, R. Manrique, R. Jimenez, M. Parreño-Romero, M.E. Domine, L.E. Arteaga-Pérez (CA). Secondary amines from catalytic amination of bio-derived phenolics over Pd/C and Rh/C: Effect of operation parameters. Catalysts (2023), 13, 654 (DOI: 10.3390/catal13040654).

8- J. Mazarío, J.A. Cecilia, E. Rodríguez-Castellón, M.E. Domine (CA). High dispersed copper oxide on silica for continuous selective dehydration of glycerol to acetol. Applied Catalysis A: Gen. (2023), (DOI: 10.1016/j.apcata.2023.119029).

9- J. Cored, J. Mazarío, C. Cerdá-Moreno, M. E. Domine, P. Concepción (CA). Unravelling the role of stabilized Cu+ in Mg-Al-O mixed oxide for improved methanol production over nano-size Cu particles

through operando spectroscopic studies. ACS Catalysis (2022), 12(7), 3845-3857 (DOI: 10.1021/acscatal.1c06044).

10- M. Ventura (CA), J. Mazarío, M. E. Domine (CA). Isomerization of glucose-to-fructose in water over a continuous flow reactor using Ca-Al mixed oxide as heterogeneous catalyst. ChemCatChem (2022), 14(3), 2202101229 (DOI: 10.1002/cctc.202101229).

C.2. Congress

1. M.L. Martínez, M. Parreño-Romero, O. Anunziata, M.E. Domine. Obtención eficiente de materiales compuestos g-C3N4/Metal-SBA-15 mediante incorporación de diferentes metales en el soporte (Oral Communication). CICAT 2024, Bilbao, Spain, September 2024.

2- M. Ortega, B. Garrido, R. Jiménez, M.E. Domine, L.E. Arteaga-Pérez. A kinetic approach to metal-site influence on phenol reductive amination with primary amines (Oral Communication). CICAT 2024, Bilbao, Spain, September 2024.

3- M.G. Idriceanu, J. Mazarío, D. Delgado, A. De Arriba, J.M. Lopéz-Nieto, M.E. Domine. Synthesis of renewable aromatic compounds from bio-derived furans over WNb-O mixed oxides with controlled acid properties (Oral Communication) CCESC 2024, Bilbao, Spain, July 2024-

4- L. Camarena, A. Fernández-Arroyo, Z. Hormigón, G. Prieto, M.E. Domine. Hydrodeoxygenation of lignin model compounds over metal mixed oxides supported Ru catalysts (Póster). ICC 2024, Lyon, France, July 2024.

5- F. Cernicharo-Toledo, L. Alonso Peñalva, F. Lindo Donet, M.E. Domine. Condensation of furfural with cyclopentanone catalysed by basic metal oxides for the synthesis of precursors of aviation fuels (Oral communication). RRB 2024, Brussels, Belgium, June 2024.

C.3. Research projects

1- Project ref.: FONDECYT 1240054. Title: Exploring the Impact of Bifunctional Catalysts for Furfural Reductive Amination: Mechanistic Insights and Kinetic Elucidations. Execution entity: Universidad del Bío Bío. Name of Responsible Researchers: L.E. Arteaga Pérez (IP), R. Jiménez, C.H. Campos Figueroa, M.E. Domine, M. García Pérez. Degree of contribution: Researcher. Nº of Researchers: 5. Financial Entity: ANID-Chile (FONDECYT). Initial date: 01/01/2024. Duration: 3 years. Total budget: ---.

2- Project ref.: PID2021-125897OB-I00. Title: Procesos catalíticos avanzados en biorrefinería para la producción de combustibles y productos (CAT4BIOPROD). Execution entity: Instituto de Tecnología Química (ITQ, UPV – CSIC). Name of Responsible Researchers: M.E. Domine, S. Iborra. Degree of contribution: IP. Nº of Researchers: 4. Financial Entity: Ministerio de Ciencia e Innovación (España). Initial date: 01/01/2023. Duration: 3 years. Total budget: 196.020,00 Euros.

3- Project ref.: H2V LIA5 – Biorrefinerías – Sub-proyecto: H2V2105005. Title: Despolimerización / hidrotratamiento catalítico de lignina (CATDEPOL/HDO). Execution entity: Instituto de Tecnología Química (ITQ, UPV – CSIC). Name of Responsible Researchers: M.E. Domine, M. López Granados. Degree of contribution: Researcher. Nº of Researchers: 2. Financial Entity: CSIC – PTI+ Fondos de RECuperación EUropea (REC_EU) (España). Initial date: 18/11/2021. Duration: 4 years. Total budget: 1.457.161,00 Euros.

4- Project ref.: GA 101006618. Title: HIGee to Furanic-based jet Fuel technologY (HIGFLY). Execution entity: CSIC. Name of Responsible Researchers: M.E. Domine. Degree of contribution: Researcher. Nº of Researchers: 3. Financial Entity: EU HORIZON 2020. Initial date: 01/01/2021. Duration: 4,5 years. Total budget: 485.000,00 Euros.

5- Project ref.: GA 883573. Title: Lignin as a feedstock for renewable marine fuels (IDEALFUEL). Execution entity: CSIC. Name of Responsible Researchers: Gonzalo Prieto, M.E. Domine. Degree of contribution: Researcher. Nº of Researchers: 2. Financial Entity: EU HORIZON 2020. Initial date: 01/04/2020. Duration: 4 years. Total budget: 576000,00 Euros.

C.4. Contracts, technological or transfer merits

1- Project title: Catalizadores sólidos para biorefinería (GrenOl - Proyecto ICEX – 2023). Financial Entity: CATALYXX Procesos Catalíticos SL, Sevilla, Spain. Duration: 2024 – 2025. Responsible Researcher: A. Corma, M.E. Domine. Degree of contribution: Researcher. Budget: 50.000,00 Euros.

2- Project title: Sistema reconfigurable y flexible de almacenamiento de energía renovable a partir de residuos (ALMAGREEN) (MIP-20201043). Financial Entity: MISIONES CDTI (España) – ACTECO S.L., GREENE S.L. Duration: 2021 - 2023. Responsible Researcher: M. E. Domine, J. M. Serra. Degree of contribution: Researcher. Budget: 370.000,00 Euros.