CURRICULUM VITAE (CVA)

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Part A. PERSONAL INFORMATION

CV date	29/04/2025

First name	Joaquín		
Family name	Coronas Ceresuela		
Gender (*)	Male	Birth date (dd/mm/yyyy)	-
Social Security, Passport, ID number	-		
e-mail	coronas@unizar.es	URL Web	
Open Researcher and Contributor ID (ORCID) (*)		0000-0003-1512-4500	

(*) Mandatory

A.1. Current position

Position	Catedrático de Universidad		
Initial date	15-3-2010		
Institution	Universidad de Zaragoza (UNIZAR)		
Department/Center	Dpto. Ingeniería Química y Tecnologías del Medio Ambiente	Instituto de Nanociencia y Materiales de Aragón	
Country	Spain	Teleph. number	976732471
Key words	Porous materials, Zeolites, Metal-organic frameworks (MOF), Encapsulation, Layered materials, Membranes, Gas separation, Pervaporation, Osmotic distillation, Membrane reactor, Nanofiltration, CO_2 capture, H_2 separation		

A.2. Previous positions (research activity interruptions, see call)

Period	Position/Institution/Country/Interruption cause
March 2010-	Full Prof., Eng. & Architecture School, UNIZAR
March-August, 2005	Visiting Prof., Chem. Eng. Mater. Sci. Dep., U. Minnesota, USA
March 2003- March 2010	Associate Prof., Eng. & Architecture School, UNIZAR
July-August, 2002	Visiting Prof., Chemistry Department, U. Aveiro, Portugal
January-December, 1996	Visiting Prof., Chemical Eng. Department, U. Colorado, USA
Nov. 1995- March 2003	Assistant Prof., Sci. Fac. & Eng. & Archit. School, UNIZAR
May-December, 1995	Postdoc, Inst. de Recherches sur la Catalyse-CNRS, France
October 1991-April 1995	PhD student, Faculty of Sciences, UNIZAR

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
B.Sc. in Chemistry/Chemical Engineering	U. Zaragoza/Spain	1990
Ph.D. in Chemistry/Chemical Engineering	U. Zaragoza/Spain	1995

Part B. CV SUMMARY

Prof. Joaquin Coronas (JC, ORCID 0000-0003-1512-4500; Scopus ID 7004692070) is a Full Professor of Chemical Engineering at the University of Zaragoza (UNIZAR). He studied Chemistry (specialty Chemical Engineering) at UNIZAR, where he received his B.Sc. (1990) and PhD (1995, special award with Profs. M. Menéndez and J. Santamaría as supervisors). He has undertaken research stays in France (with Prof. J.A. Dalmon, IRC-CNRS), USA (with

Profs. R.D. Noble and J.L. Falconer at U. Boulder, and with Prof. M. Tsapatsis at U. Minnesota) and Portugal (with Prof. J. Rocha, U. Aveiro). His current interests are related to the synthesis of silicates, zeolites and MOFs and their application in membranes (gas separation, pervaporation, nanofiltration, osmotic distillation and membrane reactors) and encapsulation. He has been involved in several European projects (M4CO2, MEMBER, INNOMEM and now PHOTOBRANE) and industrial projects with national and international companies (Nurel, IQE, Ercros, Orache Disinfection, Naturgy, Pirelli). Ca. 270 referred publications, 19 patents, 16 book chapters, 2 books (being the only author), 36 PhD supervisions (5 more in progress). H index of 81 (Google Scholar, ca. 20.200 citations); 70 (Scopus, ca. 16.400 citations). JC is included in the last "Stanford University World's Top 2% Scientists List". JC was coordinator of the Chem. Eng. degree (2015-19) at UNIZAR.

Part C. RELEVANT MERITS

C.1. Selected publications (number of cites from Google Scholar)

1. N. Liédana, A. Galve, C. Rubio, C. Tellez, J. Coronas, CAF@ZIF-8: one-step encapsulation of caffeine in MOF, ACS Appl. Mater. Interfaces 4 (2012) 5016. 417 cit.
2. S. Sorribas, P. Gorgojo, C. Tellez, J. Coronas, A.G. Livingston, "High flux thin film nanocomposite membranes based on MOFs for organic solvent nanofiltration", *J. Am. Chem. Soc.* 135 (2013) 15201. 789 cit.
3. L. Paseta, B. Seoane, D. Julve, V. Sebastián, C. Téllez, J. Coronas, "Accelerating the controlled synthesis of MOFs by a microfluidic approach: a nanoliter continuous reactor", ACS Appl. Mater. Interfaces 5 (2013) 9405. 138 cit.
4. J. Sánchez-Laínez, B. Zornoza, Á. Mayoral, Á. Berenguer-Murcia, D. Cazorla-Amorós, C. Téllez, J. Coronas, "Beyond the H_2/CO_2 upper bound: one-step crystallization and separation of nano-sized ZIF-11 by centrifugation and its application in mixed matrix membranes", J. Mater. Chem. A 3 (2015) 6549. 138 cit.
5. S. Castarlenas, C. Téllez, J. Coronas, "Gas separation with mixed matrix membranes obtained from MOF UiO-66-graphene oxide hybrids", J. Membr. Sci. 526 (2017) 205. 187 cit.
6. F. Cacho-Bailo, I. Matito-Martos, J. Perez-Carbajo, M. Etxeberría-Benavides, O. Karvan, V. Sebastián, S. Calero, C. Téllez, J. Coronas, "On the molecular mechanisms for the H_2/CO_2 separation performance of zeolite imidazolate framework two-layered membranes", Chem. Sci. 8 (2017) 325. 109 cit.
7. M. Z. Ahmad, M. Navarro, M. Lhotka, B. Zornoza, C. Téllez, W.M. de Vos, N.E. Benes, N.M. Konnertz, T. Visser, R. Semino, G. Maurin, V. Fila, J. Coronas, "Enhanced gas separation performance of 6FDA-DAM based mixed matrix membranes by incorporating MOF UiO-66 and its derivatives", J. Membr. Sci. 558 (2018) 64. 190 cit.
8. L. Paseta, C. Echaide-Górriz, C. Téllez, J. Coronas, "Vapour phase interfacial polymerization: a method to synthesize thin film composite membranes without using organic solvents", Green Chem. 23 (2021) 2449. 53 cit.
9. L. Martínez-Izquierdo, C. Téllez, J. Coronas, "Highly stable Pebax® Renew® thin-film nanocomposite membranes with metal organic framework ZIF-94 and ionic liquid [Bmim][BF 4] for CO2 capture", J. Mater. Chem. A 10 (2022) 18822. 45 cit.
10. M. Pérez-Miana, J.M. Luque-Alled, M. Yahia, Á. Mayoral, J. Coronas, "ZIF-8 modified with 2-undecylimidazolate as filler for mixed matrix membranes for CO2 separation", J. Mater. Chem. A 12 (2024) 10316. 17 cit.
11. M. Pérez-Miana, J.M. Luque-Alled, Á. Mayoral, I. Martínez-Visus, A.B. Foster, P.M. Budd, J. Coronas, "Amphiphilic zeolitic imidazolate framework for improved CO2 separation in PIM-1 mixed matrix membranes", Angew. Chem. Int. Ed. (2025) e202420879. .

C.2. Selected congresses

1. “Zeolites, MOFs and related materials”, Contribuçoes da Quimica para o Uso de Nanoparticulas na Sociedade Moderna (Londrina, Brasil, May 2011). Plenary lecture.
2. “The zeolites are dead, long live the MOFs?”, SECAT2011 Summer School (Zaragoza, Spain, June 2011). Invited lecture.
3. “Polymer-zeolitic material membranes and composites”, Postgraduate Student workshop (Hong Kong, October 2011). Invited lecture.
4. “New strategies to prepare mixed matrix membranes”, 6th Int. Zeolite Membrane Meeting (Jeju Island, South Korea, June 2013). Keynote.
5. “Continuous and mixed matrix membranes based on MOFs for gas and liquid phase separations”, 6th Int. FEZA Conference (Leipzig, Germany, September 2014). Keynote.
6. “Approach to MOF based mixed matrix membranes and encapsulation from solubility parameters”, 1st Symposium of Properties and Applications of MOFs and COFs (Granada, Spain, April 2015). Keynote.
7. “Membranes based on crystalline microporous materials for molecular separation”, UIMP Santander 2017: Chemistry in Confined Spaces (Santander, Spain, July 2017). Invited lecture.
8. “Zeolitic imidazolate framework membranes by microfluidics synthesis”, Int. Symp. on Composites of MOFs and COFs: Fundamental Design & Applications (Granada, Spain, September 2017). Keynote.
9. “MOF based thin film nanocomposite membranes for liquid and gas phase separations”, 8th Int. Zeolite Membrane Meeting (Lulea, Sweden, June 2019). Keynote.
10. “Molecular separations using thin film nanocomposites based on MOFs”, 1er Simposio Argentino de Redes Metal-Orgánicas (Argentina, Octubre 2021). Keynote.

C.3. Recent research projects

1. PHOTOBRANE / “Photo-switchable ultra-thin membranes for molecular separation". Entidad financiadora: European Union (MSCA Action, ggreement nº 101168776). PI UNIZAR: Joaquín Coronas. 1/01/2025-/31/12/2028. 503.942 €.
2. Captura directa de CO2 del aire con membranas nanocompuestas de capa fina basadas en MOF. MICIN/AEI (PID2022-138582OB-I00). PI: Carlos Téllez, Joaquín Coronas. 1/9/2023-31/8/2026. 221.000 €.
3. Novel membrane materials for enhanced gas separation and heterogeneous catalysis applications (N-GasCat). MICIN/AEI (TED2021-130621B-C41). PI: Jonas Gurauskis, Joaquín Coronas. 1/6/2020-31/5/2023. 230.000 €.
4. Ultrathin layers based on non-conventional porous materials for challenges of environmental sustainability. MICIN/AEI (PID2019-104009RB-I00). PI: Carlos Téllez, Joaquín Coronas. 1/6/2020-31/5/2023. 157.300 €.
5. INNOMEM / “Open Innovation Test Bed for nano-enabled Membranes". European Union (Agreement nº 862330). PI UNIZAR: Joaquín Coronas. 1/05/2020-/31/04/2024. 368.940 €.
6. Aumento de la competitividad en el sector vitivinícola español mediante el diseño de nuevas técnicas de desalcoholización. MINECO (RTC-2017-6360-2). PI: Ana Escudero, Joaquín Coronas. 1/9/2018-31/8/2021. 175.210 €.
7. MEMBER / “Advanced MEMBranes and membrane assisted procEsses for CO2 captuRe in pre and post combustion". Entidad financiadora: European Union (Agreement nº 760944). PI UNIZAR: Joaquín Coronas. 1/01/2018-/31/12/2021. 513.195 €.
8. Advances in hollow fiber membranes based on MOFs and graphene for efficient separation processes. MINECO (MAT2016-77290-R). PI: Joaquín Coronas, Carlos Téllez. 30/12/2016-29/12/2020. 125.000 €.

9. M4CO2 / “Energy efficient MOF-based Mixed Matrix Membranes for CO2 Capture”. European Union (Agreement nº 608490) PI UNIZAR: Joaquín Coronas. 31/12/2013-30/12/2017. 581.520 €.
10. Cápsulas híbridas para nuevas funcionalizaciones de fibras textiles (CAPHITEX). MINECO (IPT-2011-1069-310000). PI UNIZAR: Joaquín Coronas. 31/10/2011-30/10/2014. 211.287 €.

C.4. Contracts, technological or transfer merits

1. Pirelli Tyre S.P.A.: PI UNIZAR: Joaquín Coronas. 1/03/2023-28/02/2024. 85.202 €.
2. Naturgy: Report on membranes for gas separation. PI UNIZAR: Joaquín Coronas. 6/07/2023-30/09/2023. 2.847 €.
3. IQE S.A.: Síntesis de silicatos de magnesio sintéticos y naturales. Evaluación del control de su relación de aspecto. PI UNIZAR: Joaquín Coronas. 4/5/2020-3/05/2024. 152.315 €.
4. IQE S.A.: Síntesis de silicatos de magnesio. Evaluación del control de su relación de aspecto. PI UNIZAR: Joaquín Coronas. 1/4/2019-31/03/2021. 25.000 €.
5. Orache Desinfection.: NUEVA PASTILLA DD DESINFECTANTE – DETERGENTE CON NANOTECNOLOGÍA. PI UNIZAR: Joaquín Coronas. 01/03/2017-31/08/2018. 18.500 €.
6. Nurel S.A.: Caracterización de polímeros basados en Nylon. Fase 1 a 3. PI UNIZAR: Carlos Téllez. 01/01/2013-20/01/2016. 107.984 €.
7. IQE S.A.: Desarrollo de zeolitas de alta capacidad de adsorción. PI UNIZAR: Joaquín Coronas. 01/05/2014-01/05/2016. 12.100 €.
8. IQE S.A.: Estudio sobre la modificación de arcillas. PI UNIZAR: Joaquín Coronas. 30/11/2014-01/05/2016. 18.150 €.
9. Ercros S.A.: Aditivos encapsulados en materiales nanoporosos para pastillas liberadoras de ácido hipocloroso u otros oxidantes. PI UNIZAR: Joaquín Coronas. 1/10/2013-30/09/2014. 45.034 €.
10. Eficiencia Energética S.A. y cofinanciado por DGA-La Caixa Materiales nanoestructurados para la mejora de placas solares (GA-LC-019/2011). PI UNIZAR: Joaquín Coronas. 30/04/2011-30/04/2013. 40.000 €.

Patents (19: 12 are international, 4 in exploitation, 5 recent selected are shown below)

1. Reinforcing filler for rubber. D. Julve, M. Martinez, J. Ramos, J. Perez, M. Menendez, J. Coronas, M.P. Bernal, Applicant: IQE Co. ES2401813B2, EP2593503B1 (2011).
2. Laminar tin silicates, production method thereof and use of same. C. Tellez, J. Coronas, C. Casado, C. Rubio, B. Murillo. Applicant: UNIZAR. ES2443542B1, WO2014013103 (2012).
3. Tablets for treating and disinfecting water. J. Coronas, L. Paseta, E. Simón, F. Gracia, F. España, Applicant: Ercros. EP3232789A1 (2014).
4. Organic - inorganic porous hybrid material, method for obtaining it and use thereof. J. Pérez, F. Cacho, J. Coronas, C. Téllez, Applicant: UNIZAR and IQE Co. ES2682056B1, EP3595808B1 (2017).
5. Disinfectant table for surfaces, with repellent of dirt and process of obtaining the same. J. Coronas, R. Monteagudo, S. Mayenco, L. Gracia, Applicant: Orache Desinfection. ES2672113B2 (2018).