CURRICULUM VITAE ABREVIADO (CVA)

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

CV date	23/01/2026

Part A. PERSONAL INFORMATION

First name	Antonio Abad		
Family name	Cuadri Vega		
Gender (*)		Birth date (dd/mm/yyyy)	
Social Security, Passport, ID number			
e-mail			
Open Researcher and Contributor ID (ORCID) (*)			

(*) Mandatory

A.1. Current position

Position	Associate Profesor		
Initial date	07/06/2021		
Institution			
Department/Center			
Country		Teleph. number	
Key words	Bitumen, rheology, processing, building materials, polymers, thermal energy storage, phase change materials		

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

Period	Position/Institution/Country/Interruption cause
01/11/2011 – 31/12/2014	Research Assistant
09/02/2015 – 21/03/2018	Substitute Professor
22/03/2018 – 04/06/2020	Assistant Professor
05/06/2020 – 06/06/2021	Associate Professor (not civil servant)

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
BSc in Chemical Engineering	Spain	2008
MSc in Technology and Product Formulation	Spain	2009
PhD in Chemical Engineering	Spain	2013
MSc in Chemical Engineering	Spain	2016

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

The candidate is an Associate Professor of Chemical Engineering since 2021 and received his bachelor's degree in Chemical Engineering in 2008 and completed his PhD in 2013. He is Secretary of this Department from 01/10/2020 to the present. His teaching activities are related to PhD studies on Chemical Reaction Engineering.

His research activity is focused on the design of high added value microstructured products (bitumens, bioplastics, foams, hydrogels, etc.) based on the analysis of their formulation and processing conditions. This design requires a complete characterization of each formulated product, by means of rheological, physicochemical, microstructural and/or technological standardized tests. He is responsible for the research line on the development of new energy-efficient bituminous materials for their application in

buildings. In this sense, he is currently Principal Investigator of a national research project (PID2023-149701OA-I00), which aims to develop novel bituminous materials formulated with solid-solid phase change materials (SS-PCMs) for improving the building energy efficiency based on solar energy applications. He has been Principal Investigator of a regional research project (*UHU-1256916*), in which novel asphaltic membranes with heat storage capacity, mainly oriented to the capture of solar thermal energy, were formulated with solid-liquid phase change materials. In addition, he has also been co-Principal Investigator of a national research project (*TED-2021-131284B-I00*), which aims to develop functional bituminous bio-foams with high thermal storage capacity.

Thus, he has participated in a total of 10 R&D projects with public funding, being the Principal Investigator in four of them (*EPIT5412019*, *UHU-1256916*, *TED2021-131284B-100* and *PID2023-149701OA-I00*). Likewise, he has developed an intense activity of technology transfer, participating in 20 R&D contracts, highlighting those with companies such as Sacyr Chile S.A. (41.648 €), Dynasol Elastómeros, S.A. (127.050 €) and Abengoa Solar New Technologies (566.099 €). In the latter, a three-year industrial project, entitled Composol (FEDER-INNTERCONECTA), with Abengoa Solar as project leader, the development of advanced heat transfer fluids for application in parabolic-trough solar concentrating systems was studied.

As a result of this research activity he is co-inventor of 3 patents, coauthor of 52 scientific articles published in prestigious journals, according to the classification made by the Web of Knowledge-Journal Citation Report, with 46 of them occupying Q1 position and 6 in Q2. He currently has an H index of 21, according to ISI. He has carried out two research stays: i) a predoctoral stay of 3 months at the University of Nottingham, and ii) a postdoctoral stay of 9 months at the University of Seville. Evidence of international collaborations is presented through the publication of scientific articles with internationally prestigious researchers such as Prof. Airey (University of Nottingham, UK), Prof. Greiner (University of Bayreuth) and Prof. Stading (Chalmers University Technology, Sweden). In addition, he has participated in 23 national and international scientific congresses, is currently supervising three doctoral theses and is reviewer of 18 scientific journals related to his fields of research.

With regard to awards and distinctions, he has received: a) the Extraordinary Doctorate Award for the Engineering and Architecture branch, b) his doctoral thesis was awarded by the AIQBE (Association of Chemical, Basic and Energy Industries of Huelva) as the best thesis in the Engineering and Architecture branch in 2014, and c) he received the award for a research of excellence by a young researcher, granted by the Faculty of Experimental Sciences at the University of Huelva in 2018.

In addition to this research activity, he has actively participated in different scientific dissemination activities as a member of the organizing committee of congresses ("VI Congress of Young Researchers in Polymers" and “XV Meeting of the Specialty Polymer Group”) and as a collaborating member in the Doctoral Students Conference of the Doctoral Program of Industrial and Environmental Science and Technology of the University of Huelva during its last five editions. Finally, he also participates in dissemination activities organized by the OTRI (Research Results Transfer Office), European Researcher’s Night, Science without Borders or Open Doors Conferences.

Part C. RELEVANT MERITS *(sorted by typology)*

C.1. Publications

1. E. Álvarez-Gallardo, A. Tenorio-Alfonso, A.A. Cuadri. Energy-efficient polymer/bitumen roofing materials formulated with non-encapsulated beeswax phase change material. *Applied Thermal Engineering*, 279 (2025) 127617.
2. B. García-Márquez, P. Partal, F.J. Navarro, C. Delgado-Sánchez, A.A. Cuadri. Solid-to-solid phase change transitions to enhance solar heat storage of bitumen used in domestic hot water collectors. *Construction and Building Materials*, 495 (2025) 143681.
3. R. Vidal, R. Álvarez-Barajas, A.A. Cuadri, M.J. Martín-Alfonso, P. Partal. Design of nonbituminous binders for road application using vegetable resources. *ACS Sustainable Chemistry & Engineering*, 13 (2025) 6735-6745.
4. C. Gutiérrez-Blandón, A.A. Cuadri, C. Delgado-Sánchez P. Partal, F.J. Navarro. Study on miscibility, thermomechanical behavior, and thermoregulation performance of paraffin wax/bituminous blends for solar thermal energy storage applications. *Energy & Fuels*, 38 (2024) 3407-3416.
5. A.A. Cuadri, C. Delgado-Sánchez, A. Tenorio-Alfonso, P. Partal, F.J. Navarro. Form-stable bitumen paraffin-wax/polymer binders for energy-efficient building applications. *Journal of Energy Storage* 93 (2024) 112420.

6. C. Gutiérrez-Blandón, A.A. Cuadri, P. Partal, A. Tenorio-Alfonso, C. Delgado-Sánchez, F.J. Navarro. Rheological aspects of solid-to-liquid phase transitions in paraffin wax/bitumen blends for thermal energy storage applications. *Applied Thermal Engineering*, 254 (2024) 123779.
7. C. Gutiérrez-Blandón, A.A. Cuadri, A. Tenorio-Alfonso, P. Partal, F.J. Navarro. Rheological and phase behaviour of paraffin wax/bitumen blends with thermal storage characteristics. *Construction and Building Materials*, 401 (2023) 132826.
8. R. Álvarez-Barajas, A.A. Cuadri, C. Delgado-Sánchez, F.J. Navarro, P. Partal. Non-bituminous binders formulated with bio-based and recycled materials for energy-efficient applications. *Journal of Cleaner Production*, 393 (2023) 136350.
9. C. Delgado, A.A. Cuadri, F.J. Navarro, P. Partal. Formulation and processing of novel non-aqueous polyethylene glycol-in-silicone oil (o/o) phase change emulsions. *Solar Energy Materials and Solar Cells*, 221 (2021) 110898.
10. A.A. Cuadri, S. Pérez-Moreno, C.L. Altamar, F.J. Navarro, J.P. Bolívar. Phosphosgypsum as additive for foamed bitumen manufacturing used in asphalt paving. *Journal of Cleaner Production*, 283 (2021) 14661.

C.2. Congress

He has been member of the organizing committee of the following congresses:

1. Congress: XV Reunión del Grupo Especializado de Polímeros; Date: 24/09/2018 - 27/09/2018; Place: Punta Umbría, Huelva, Spain.
2. Congress: VI Congreso de Jóvenes Investigadores en Polímeros; Date: 22/04/2012 - 26/04/2012; Place: Islantilla, Huelva, Spain.

C.3. Research projects

He is responsible for the research line on the development of new energy-efficient bituminous materials for their application in building. Thus, he is currently Principal Investigator of a national research project (PID2023-149701OA-I00), he has been Principal Investigator of a regional research project (UHU-1256916) and a national research project (TED-2021-131284B-I00). More details on these three projects are gathered below:

1. Title: Development of bituminous materials formulated with solid-solid phase change materials for for improving the building energy efficiency; Reference: PID2023-149701OA-I00; Funding Body: Ministerio de Ciencia, Innovación y Universidades; Principal Investigator: A.A. Cuadri; Affiliation: Universidad de Huelva; Type of participation: Principal Investigator; Duration: 01/09/2025 to 31/08/2027; Budget: 195.625 €. Project state: Approved.
2. Title: Functional bituminous bio-foams with enhanced heat storage capacity; Reference: TED2021-131284B-I00; Funding Body: Ministerio de Ciencia e Innovación; Principal Investigator: F.J. Navarro Domínguez / A.A. Cuadri; Affiliation: Universidad de Huelva; Type of participation: Principal Investigator; Duration: 01/12/2022 to 01/12/2024; Budget: 110.515 €. Project state: Approved.
3. Title: Multi-phase materials based on biopolymers with energy storage capacity for use in sustainable building; Reference: UHU-1256916; Funding Body: Consejería de Economía, Conocimiento, Empresas y Universidad (Junta de Andalucía); Principal Investigator: A.A. Cuadri; Affiliation: Universidad de Huelva; Duration: 01/01/2020 to 31/12/2022; Budget: 38.700 €. Project state: Approved.

In addition, he has participated in the other R&D projects:

1. Title: Development of phase change Oil-in-Oil emulsions with enhanced rheological, heat storage and heat transfer properties; Reference: PID2020-116905RB-100; Funding Body: Ministerio de Ciencia e Innovación; Principal Investigator: F.J. Navarro Domínguez; Affiliation: Universidad de Huelva; Type of participation: Investigator; Duration: 01/09/2021 to 30/08/2024; Budget: 174.119 €. Project state: Approved.
2. Title: Study of thermorheologically advanced dispersions designed for heat transport applications; Reference: CTQ2017-89792-R; Funding Body: Ministerio de Economía, Industria y Competitividad; Principal Investigator: F.J. Navarro Domínguez/F.J. Martínez Boza; Affiliation: Universidad de Huelva; Type of participation: Investigator; Duration: 01/01/2018 to 31/12/2020; Budget: 137.940 €. Project state: Approved.

3. Title: Design of microstructured fluids for heat transport and storage; Reference: P18-RT-4684; Funding Body: Consejería de Economía. Conocimiento, Empresas y Universidad (Junta de Andalucía); Principal Investigator: F.J. Martínez Boza; Affiliation: Universidad de Huelva; Type of participation: Investigator; Duration: 01/01/2018 to 31/12/2021; Budget: 102.268 €. Project state: Approved.
4. Title: Rheological design of sustainable fluids enhanced with nanoparticles for improved oil and gas drilling and recovery; Reference: CTQ2014-56980-R; Funding Body: Ministerio de Economía y Competitividad; Principal Investigator: F.J. Martínez Boza; Affiliation: Universidad de Huelva; Type of participation: Investigator; Duration: 01/01/2015 to 31/12/2017; Budget: 199.650 €. Project state: Approved.
5. Title: Development of new bituminous rejuvenating binders, emulsions and foams applicable to the recycling of asphaltic pavements; Reference: P10-TEP-6689; Funding Body: Consejería de Economía, Innovación y Ciencia (Junta de Andalucía); Principal Investigator: F.J. Navarro Domínguez; Affiliation: Universidad de Huelva; Type of participation: Investigator; Duration: 06/02/2013 to 31/01/2016; Budget: 251.497 €. Project state: Approved.

C.4. Contracts, technological or transfer merits

Contracts

1. Title: Research and development of new sustainable pavements with high mechanical and acoustic performance through the wet recycling of high contents of end-of-life tires (NFU) and plastic waste; Reference: 10-2017; Funding Body: Sacyr Chile S.A.; Principal Investigator: P. Partal; Affiliation: Universidad de Huelva; Type of participation: Investigator; Duration: 20/04/2017 to 30/06/2018; Budget: 41.648 €.
2. Title: Formulation and characterization of bitumens modified with SBS; Reference: 42-2019; Funding Body: Dynasol Elastómeros SAU; Principal Investigator: P. Partal; Affiliation: Universidad de Huelva; Type of participation: Investigator; Duration: 01/09/2019 to 01/09/2021; Budget: 127.050 €.
3. Title: Development of advanced Heat Transfer Fluids (HTF) applicable in parabolic trough technology; Funding Body: Abengoa Solar New Technologies; Principal Investigator: P. Partal; Affiliation: Universidad de Huelva; Type of participation: Research Assistant (from 01/11/2013 to 28/02/2014); Duration: 01/06/2012 to 31/03/2015; Budget: 566.099 €.

Patents

1. Title: Binder composition for asphalt mixture manufacture; Inventors: R. Lictevout, J. Torres, M.E. Hidalgo, R. Álvarez-Barajas, P. Partal, F.J. Navarro, F.J. Martínez-Boza, A.A. Cuadri. Application number: P202330537; Date: 28/06/2023; Applicants: Eiffage Infraestructuras-Universidad de Huelva; Country of priority: Spain.
2. Title: Methods for the combined foaming/modification of bitumens for use in paving; Inventors: A.A. Cuadri, F.J. Navarro, M. García-Morales, F.J. Martínez, P. Partal; Titular entity: Universidad de Huelva; Date: 12/05/2015; Publication number: ES 2 516 566 B2; Country of priority: Spain.
3. Title: Bituminous binder for pavement recycling; Inventors: P. Partal, F.J. Navarro, M. García-Morales, F.J. Martínez, C. Gallegos, I. Martínez, V. Carrera, A.A. Cuadri; Titular entity: Universidad de Huelva; Date: 27/11/2012; Publication number: ES 2 375 125 B2; Country of priority: Spain.