

CURRICULUM VITAE ABREVIADO (CVA)

Date of CVA

16/06/2025

Part A. PERSONAL INFORMATION

First name	Asterio		
Family name	Sánchez Mirón		
Gender (*)	Male	Birth date (dd/mm/yyyy)	
Social Security, Passport, ID number			
e-mail		URL Web	
Open Researcher and Contributor ID (ORCID) (*)			

(*) *Mandatory*

A.1. Current position

Position	Full Professor		
Initial date	23/06/2020		
Institution	University of Almería		
Department/Center	Chemical Engineering / Escuela Superior de Ingeniería		
Country	Spain	Teleph. number	
Key words	Bioprocesses, microalgae, photobioreactors, biorefinery, CFD		

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

Period	Position/Institution/Country/Interruption cause
25/10/2001-10/02/2002	Lecturer / University of Almería / Spain
11/02/2002-04/07/2005	Associate Lecturer / University of Almería / Spain
04/07/2005-09/08/2010	Doctor Associate Professor / University of Almería / Spain
10/08/2010-22/06/2020	Associate Professor / University of Almería / Spain

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
PhD in Chemical Engineering	University of Almería / Spain	2001
Licensed in Industrial Chemistry	University of Granada / Spain	1996

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

Research six-years term: 4; **Date of last granted:** 2022; **Number of PhD theses directed:** 5; **Total cites:** 3503 in Scopus, 3061 in Web of Science, 5144 in Google Scholar; **Average number cites / year:** 85 the last 5 years (Scopus); **Total publications:** 93 (75 in Q1); % publications in Q1 during the last 5 years: 81%; 43% within the first decile; **h-index (Scopus):** 32; **i-10 index:** 64; **Congress communications:** >80. On the ResearchGate social platform, my Research Interest Score is higher than 95% of all ResearchGate members. It is also higher than (i) 87% of members who first published in 1999, (ii) > 94% of researchers with work related to Biotechnology, and (iii) >95% of researchers with work related to Chemical Engineering. **Coordinator of the Chemical Engineering Grade** from 31/05/2013 to 01/01/2017. Director of the BIO173 'Marine microalgae biotechnology' Research Group since 2022. Member of the Executive Committee of the International Society for Applied Phycology from 2024 to 2027. Member of the Editorial Board of the journal Frontiers in Bioengineering and Biotechnology since 2022.

Ph.D. in Chemical Engineering (2001) by the University of Almería (UAL). FPU grant from 1998 to 2001. Professor at the Department of Chemical Engineering at the UAL from 2001 to 2002, and Associate Professor at the UAL from 2002 to 2005. Doctor Associate Professor from 2005 to 2010. Full Associate Professor in Chemical Engineering from 2010 to 2020. My research activity has focused on Biochemical Engineering and Development of Bioprocesses, with interesting scientific and technological contributions in the following areas: (i) marine microalgae for the production and

purification of lipids of interest (e.g. polyunsaturated fatty acids) or biodiesel production; (ii) marine microalgae for antipathogenic and antitumor molecules (iii) *in vitro* culture of marine sponges for the production of molecules with cytotoxic activity; (iv) marine dinoflagellates for the production of toxins and bioactives of commercial interest; (v) computational fluid simulations for equipment optimization. The research group has obtained important breakthroughs in marine dinoflagellate-based bioprocesses through an intense work in the quantification of the sensitivity to turbulence developed in photobioreactors (PBRs), mitigation of the cell damages caused by it, CFD-based hydrodynamics studies, custom-made photobioreactor designs for shear-sensitive species, genetic algorithm-based culture medium formulations and evaluation and mitigation of biofouling in PBRs.

Participated in 20 projects of competitive public financing, 4 of public regional financing (3 as IP), 10 of National financing (1 as IP), in 3 European funding projects, 2 Chilean, in 4 private financing projects. I am a regular teacher in the Study Abroad tailor-made program between the University of Almería and Sup'Biotech (Engineering School in Biotechnology in Paris) entitled 'Bioprocess Engineering of Microalgae: From the Cell to the Final Product' which is organized annually by the research group. Member of the Organization and Evaluation Committees since its first edition in 2014 of the Contest of Educational Projects in Chemical Engineering for the dissemination of Chemical Engineering in High Schools, organized by the Department of Chemical Engineering at UAL. For the diffusion of the Group Research lines to high school students and society. I have participated in the Week of Science since 2010, Visit your University Program since 2014; the European Night of Researchers since 2021. I share my participation in congresses and recently published papers in the Research Group LinkedIn profiles.

Part C. RELEVANT MERITS (sorted by typology)

C.1. Publications (see instructions)

1. S. Kichouh-Aiadi, J.J. Gallardo-Rodríguez, L. López-Rosales, M.C. Cerón-García, F. García-Camacho, A. Sánchez-Mirón (2024). Exploring quorum sensing for inducing bioactives overproduction in the dinoflagellate microalga *Amphidinium carterae*. *Algal Research*, 83, 103719. IF: 4.6. Position: 31/174, Q1 in Biotechnology & Applied Microbiology.
2. E. López-Herrada, J.J. Gallardo-Rodríguez, L. López-Rosales, M.C. Cerón-García, A. Sánchez Mirón, F. García-Camacho (2023). Life-cycle assessment of a microalgae-based fungicide under a biorefinery approach. *Bioresource Technology* 359 127490. IF: 11.4. Position: 11/156, Q1 in Biotechnology & Applied Microbiology.
3. A. Macías-de la Rosa, L. López-Rosales, M.C. Cerón-García, A. Molina-Miras, Y. Soriano-Jerez, A. Sánchez-Mirón, S. Seoane, F. García-Camacho (2023). Assessment of the marine microalga *Chrysochromulina rotalis* as bioactive feedstock cultured in an easy-to-deploy light-emitting-diode-based tubular photobioreactor. *Bioresource technology*, 389,129818. IF: 9.7. Position: 10/174, Q1 in Biotechnology & Applied Microbiology.
4. M. López-Rodríguez, M.C. Cerón-García, L. López-Rosales, E. Navarro-López, A. Sánchez Mirón, A. Molina-Miras, A.C. Abreu, I. Fernández, F. García-Camacho (2021). An integrated approach for the efficient separation of specialty compounds from biomass of the marine microalgae *Amphidinium carterae*. *Bioresource technology*, 342,125922. IF: 9.642. Position: 12/159, Q1 in Biotechnology & Applied Microbiology.
5. L. López-Rosales, A. Sánchez-Mirón, A. Contreras-Gómez, F. García-Camacho, F. Battaglia, L. Zhao, E. Molina-Grima (2019). Characterization of bubble column photobioreactors for shear-sensitive microalgae culture. *Bioresource technology*, 275, 1-9. IF: 7.539. Position: 12/156, Q1 in Biotechnology & Applied Microbiology.
6. A. Molina-Miras, L. López-Rosales, A. Sánchez-Mirón, M. C. Cerón-García, S. Seoane-Parra, F. García-Camacho, E. Molina-Grima (2018). Long-term culture of the marine dinoflagellate microalga *Amphidinium carterae* in an indoor LED-lighted raceway photobioreactor: production of carotenoids and fatty acids. *Bioresource technology*, 265, 257-267. IF: 6.669. Position: 13/162, Q1 in Biotechnology & Applied Microbiology.
7. A. Molina-Miras, A. Morales-Amador, C. R. de Vera, L. López-Rosales, A. Sánchez-Mirón, M. L. Souto, J.J. Fernández-Castro, F. García Camacho, E. Molina-Grima (2018). A pilot-scale bioprocess to produce amphidinols from the marine microalga *Amphidinium carterae*: Isolation of a novel analogue. *Algal research*, 31, 87-98 (2018). IF: 3.723. Position: 39/162, Q1 in Biotechnology & Applied Microbiology.
8. L. López-Rosales, A. Sánchez-Mirón, F. García-Camacho, A. R. Place, Y. Chisti, E. Molina-Grima (2018). Pilot-scale outdoor photobioreactor culture of the marine dinoflagellate *Karlodinium*

veneficum: Production of a karlotoxins-rich extract. *Bioresource technology*, 253, 94-104. IF: 5.651. Position: 14/160, Q1 in Biotechnology & Applied Microbiology.

9. L. López-Rosales, F. García-Camacho, A. Sánchez-Mirón, E. Martín-Beato, Y. Chisti, E. Molina-Grima. (2016). Pilot-scale bubble column photobioreactor culture of a marine dinoflagellate microalga illuminated with light emission diodes. *Bioresource technology*, 216, 845-855. IF: 5.651. Position: 14/160, Q1 in Biotechnology & Applied Microbiology.
10. L. López-Rosales, J. J. Gallardo-Rodríguez, A. Sánchez-Mirón, A. Contreras-Gómez, F. García-Camacho, E. Molina-Grima (2013). Modelling of multi-nutrient interactions in growth of the dinoflagellate microalga *Protoceratium reticulatum* using artificial neural networks. *Bioresource technology*, 146, 682 - 688. IF: 5.039. Position: 17/165, Q1 in Biotechnology & Applied Microbiology.

C.2. Congress

1. Molina, Alejandro; López-Rosales, Lorenzo; Cerón-García, María Del Carmen; Sánchez-Mirón, Asterio; Contreras-Gómez, Antonio; García-Camacho, Francisco; Molina-Grima, Emilio. (2018). Bioprocesses for bioactives production from marine dinoflagellates microalgae. Oral Presentation. 12th Symposium of the European Society of Biochemical Engineering Sciences. Lisbon, Portugal.
2. Kichouh Aiadi, S., Gallardo-Rodríguez, J.J.; López-Rosales, L.; Cerón-García, M.C.; Sánchez-Mirón, A.; García-Camacho, F. (2022). Exposure of a Marine Dinoflagellate Microalgae to Epigenetic Modifiers. Oral Presentation. ALGAEUROPE 2022. Rome, Italy.
3. Sánchez-Mirón, A., Kichouh Aiadi, S., Gallardo-Rodríguez, J.J.; López-Rosales, L.; Cerón-García, M.C.; García-Camacho, F. (2023). Plant hormones for increasing valuable metabolites from diverse microalgal groups. Oral Presentation. ALGAEUROPE 2023. Prague, Czech Republic.

C.3. Research projects

1. PROJECT REFERENCE: PY20_00785

PROJECT TITLE: Desarrollo y Escalado de Fotobiorreactores Para El Cultivo Inmovilizado de Dinoflagelados Bentónicos Marinos Con Interés Agroalimentario. Bentofilm

FUNDING ENTITY: Secretaría General de Universidades, Investigación y Tecnología

PROJECT PERIOD: FROM 14/10/2021 TO:31/03/2023 BUDGET: 75,521 €

PRINCIPAL RESEARCHER: **Asterio Sánchez Mirón**

2. PROJECT REFERENCE: PID2019-109476RB-C22

PROJECT TITLE: Bio-guided Microalgae-based bioprocess optimization for agrifood industry applications

FUNDING ENTITY: AGENCIA ESTATAL DE INVESTIGACIÓN

PROJECT PERIOD: FROM 01/06/2020 TO: 31/12/2023 BUDGET: 133,100 €

PRINCIPAL RESEARCHER: **Asterio Sánchez Mirón** / Francisco García Camacho

3. REFERENCE: RTC-2017-6405-1 (Convocatoria Retos-Colaboración 2017). PROJECT TITLE: Microbioma marino contra el cáncer (MARBIOM). APPLICANT: PharmaMar S.A. PARTICIPANT INSTITUTIONS AND COMPANYS: PharmaMar S.A., Universidad de Almería (UAL), Instituto Mediterraneo de Estudios Avanzados (IMEDEA), Estacion Experimental del Zaidin (EEZ). FOUNDER: MINISTERIO DE CIENCIA, INNOVACIÓN Y UNIVERSIDADES.

PROJECT PERIOD: FROM 01/01/2018 TO: 31/12/2021. Budget: 2,130,332.51 €. PRINCIPAL RESEARCHER: **Francisco García Camacho**. Involvement: Research Team

4. REFERENCE: Fondecyt Regular 1170515

TITLE: Towards bioprocess engineering with toxic microalgae.

FOUNDER: Comisión Nacional de Investigación Científica y Tecnológica; República de Chile

PROJECT PERIOD: FROM 31/03/2017 TO 31/03/2019. BUDGET: 185,000 €.

PRINCIPAL RESEARCHER: **Juan José Gallardo Rodríguez**. Involvement: Work Team

5. REFERENCE: Fondef ID17I10100

TITLE: Biotechnological production of a natural anesthetic formulation of marine origin for use in aquaculture.

FOUNDER: Comisión Nacional de Investigación Científica y Tecnológica; República de Chile

PROJECT PERIOD: FROM 01/01/2018 TO 31/12/2019. BUDGET: 270,000 €.

PRINCIPAL RESEARCHER: **Allisson Astuya Villalón**. Involvement: Work Team

6. PROJECT REFERENCE: CTQ2014-55888-C3-2-R

PROJECT TITLE: Biotecnología de dinoflagelados marinos. Producción y valorización de su biomasa a escala piloto.

FUNDING ENTITY: Ministerio de Economía y Competitividad

PROJECT PERIOD: FROM 01/01/2015 TO 31/12/2018. BUDGET: 156,090 €.

PRINCIPAL RESEARCHER: **Francisco García Camacho**. Involvement: Research Team

7. PROJECT REFERENCE: SAF2011-28883-C03-02

PROJECT TITLE: Biotecnología industrial de microalgas marinas dinoflageladas y sustancias bioactivas derivadas.

FUNDING ENTITY: Ministerio de Ciencia e Innovación

PROJECT PERIOD: FROM 01/01/2012 TO: 31/12/2014 BUDGET: 133,100 €

PRINCIPAL RESEARCHER: **Francisco García Camacho**. Involvement: Research Team

8. PROJECT REFERENCE: TEP-5375

PROJECT TITLE: Cultivo de dinoflagelados marinos con interés alimentario, farmacológico y medioambiental.

FUNDING ENTITY: Consejería de Innovación, Ciencia y Empresa de la Junta de Andalucía.

PROJECT PERIOD: FROM 02/02/2010 TO: 01/08/2014 BUDGET: 149,766 €.

PRINCIPAL RESEARCHER: **Asterio Sánchez Mirón**

C.4. Contracts, technological or transfer merits

1. PROJECT TITLE: Producción de aceite con alto contenido de ácido docosahexaenoico (DHA) a partir de fermentación con microalgas de uso alimentario: Algae-DHA-oil. FUNDING ENTITY: Brudy Technology, S.L, University of Almería.

PRINCIPAL RESEARCHER: **Pedro Antonio González Moreno, Asterio Sánchez Mirón**. AFILIATION ENTITY: University of Almería.

PROJECT PERIOD: FROM 14/02/2024 TO: 14/12/2025 BUDGET: 25,500 €

2. PROJECT TITLE: Prospección de microalgas marinas para aplicaciones agroalimentarias (PROMAGRI). FUNDING ENTITY: Proyectos de transferencia del conocimiento e innovación empresarial en el ámbito de la economía azul. CEI-MAR 2022 and Kimatec Biogroup S.L.

PRINCIPAL RESEARCHER: **Asterio Sánchez Mirón**. AFILIATION ENTITY: University of Almería.

PROJECT PERIOD: FROM 15/06/2023 TO: 14/06/2024 BUDGET: 7,160 €

Patents

1. Macías de la Rosa, A.; Cerón-García, M.C.; López Rosales, L.; García-Camacho, F.; Sánchez Mirón, A. TITLE: Método para la conservación de cepas microalgales en un medio semisólido. P202330964. PRIOROTY COUNTRIES: Spain. PRESENTATION DATE: 23/11/2023. HOLDER ENTITY: University of Almería

2. Navarro López, Elvira; Cerón García, María del Carmen; López Rosales, Lorenzo; Sánchez Mirón, Asterio; García Camacho, Francisco; Molina Grima, Emilio. TITLE: FORMULACIÓN FITOSANITARIA. PCT/ES2022/070394. PRIOROTY COUNTRIES: International. PRESENTATION DATE: 22/06/2022. HOLDER ENTITY: University of Almería.

Material Transfer Agreements

1. COMPANY: Kimatec Biogroup S.L.

RESEARCHERS: A. Sánchez-Mirón, F. García-Camacho, M.C. Cerón-García, E. Molina-Grima.

DATE: 24/11/2021. MATERIALS: 38 extracts of microalgal biomass for antipathogenic activity evaluation.

2. COMPANY: Kimatec Biogroup S.L.

RESEARCHERS: A. Sánchez-Mirón, F. García-Camacho, M.C. Cerón-García, E. Molina-Grima.

DATE: 12/01/2022-to date. MATERIALS: 28 extracts of microalgal biomass for antipathogenic activity evaluation.

3. COMPANY: Vellsam Materias Bioactivas S.L.

RESEARCHERS: A. Sánchez-Mirón, F. García-Camacho, M.C. Cerón-García.

DATE: 20/06/2022-to date. MATERIALS: 21 extracts of microalgal biomass for antipathogenic activity evaluation.