CVA Date	11/01/2022

Part A. PERSONAL DATA

Name and surname	Juan Palacios Ortega		
DNI/NIE/passport	70085778V	Age	27
No. identification of the researcher	Researcher ID	ABB-5465-2021	
	Orcid Code	0000-0002-4629-0221	

A.1. Current professional situation

Organism	Åbo Akademi			
Dpto. /Center	Biochemistry			
Address	Tykistökatu 6A			
Telephone	608666903	email	juan.palaciosb1a@gmail.com	
Professional category	Postdoctoral researcher		Start date	2021
Spec.cod. UNESCO				
Keywords	Proteins, lipids, membranes, fluorescence, calorimetry			

A.2. Academic background *(title, institution, date)*

Bachelor/Bachelor/Doctorate	University	Year
Degree in Biochemistry	Univ. Complutense of Madrid	2016
Master in Biochemistry, Biol. Molecular and Biomedicine	Univ. Complutense of Madrid	2017
PhD in Biochemistry, Biol. Molecular and Biomedicine	Univ. Complutense of Madrid	2021
PhD in Biochemistry	Univ. Åbo Akademi of Turku (Finland)	2021

A.3. General indicators of quality of physicalproduction (see *instructions)*

15 published articles or book chapters. Since 2015, 2 articles of Q1 and 8 of Q2. Index h 7/7 (Scopus/Google Scholar). Total citations 96/154 (Scopus/Google Scholar). Citations/year 16/26 (Scopus/Google Scholar). Orcid: 0000-0002-4629-0221. ResearchID: ABB-5465-2021. Google Scholar: zPcA7CUAAAAJ. Scopus: 57188548657.

Part B. FREE SUMMARY OF THE CURRICULUM *(max 3500 characters, including blank spaces)*

In 2012 I started the Biochemistry degree at Complutense University of Madrid (UCM). During these studies, I had the opportunity to do a one-year Erasmus+ stay (2015/2016) at Åbo Akademi University (ÅA) in Turku (Finland). After this degree, I studied the Master in Biochemistry, Molecular Biology and Biomedicine (2016/2017) at UCM.

At the time of starting the doctorate, and thanks to the success of my Erasmus+experience, I chose to carry out a co-supervised thesis between UCM and ÅA, with up to 5 stays in each university during the course of these studies. As of 11/01/22, I am a PhD in Biochemistry and Molecular Biology by UCM and PhD in Biochemistry by ÅA, having defended my thesis on June 18th, 2021, and received the highest grade (Sobresaliente *cum laude* / Passed with Honours) from both entities.

So far, I have published 12 indexed articles, featuring as first author in 6 of them, of which I am the corresponding author in 2, having an h-index = 7. In addition, I have also published two book chapters, featuring as first author in one of them. Since I started my PhD, at the end of 2017, I have participated in 6 scientific congresses (4 of worldwide level), having been able to present my research in 4 of them.

Parallel to my research activity, I have taught at the Department of Biochemistry and Molecular Biology (DBBM) at UCM, up to a total of 57 hours. In addition, I have supervised the research of several students, including the work of 2 Erasmus stay students at the ÅA. I have also participated in scientific outreach projects arranged by the DBBM of the UCM.

Nowadays, I continue with my research activity, starting my postdoctoral work. So far, I have already been granted two projects as *principal investigator* to determine the three-dimensional structure of pore-forming toxins in nanodiscs.

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

C. 1. Publications

- Palacios-Ortega, J.*, García-Linares, S., Rivera-de-Torre, E., Gavilanes, J. G., Martínez-del-Pozo, Á., & Slotte, J. P. (2021). **Oligomerization of Sticholysins from Förster Resonance Energy Transfer**. *Biochemistry,*60(4), 314-323. ***Corresponding author** Chosen *Article of the month* by the SEBBM. (https://web2020.sebbm.es/web/es/divulgacion/articulo-mes/4549-oligomerization-of-sticholysins-from-foerster-resonance-energy-transfer).
- Palacios-Ortega, J., Rivera-de-Torre, E., Gavilanes, J. G., Slotte, J. P., Martínez-del-Pozo, Á., & García-Linares, S. (2021) **Biophysical Approaches to Study Actinoporin-lipid Interactions.** *Methods in Enzymology, 649,*307-339.
- Palacios-Ortega, J.*, García-Linares, S., Rivera-de-Torre, E., Heras-Márquez, D., Gavilanes, J. G., Slotte, J. P., Martínez-del-Pozo, Á. (2021). **Structural Foundations of Sticholysin Functionality.** *Biochimica et Biophysica Acta (BBA) – Proteins and Proteomics,*140696. ***Corresponding author**
- Palacios-Ortega, J., Rivera-de-Torre, E., Gavilanes, J. G., Slotte, J. P., & Martínez-del-Pozo, Á. (2020). **Evaluation of different approaches used to study membrane permeabilization by actinoporins on model lipid vesicles.** *Biochimica et Biophysica Acta (BBA) – Biomembranes,*1862(9), 183311. Chosen *Article of the Month* by the SEBBM. (https://web2020.sebbm.es/web/es/divulgacion/articulo-mes/4212-evaluation-of-different-approaches-used-to-study-membrane-permeabilization-by-actinoporins-on-model-lipid-vesicles)
- Rivera-de-Torre, E., Palacios-Ortega, J., Slotte, J. P. Gavilanes, J. G., Martínez-del- Pozo, Á., & García-Linares, S. (2020). **Functional and Structural Variations among Sticholysins, Pore-forming Proteins from the Sea Anemone *Stichodactyla helianthus*.** *International Journal of Molecular Sciences,*21(23), 8915.
- Rivera-de-Torre, E., Palacios-Ortega,J., Garb, J. E., Slotte, J. P., Gavilanes, J. G., & Martínez-del-Pozo, Á. (2020). **Structural and functional characterization of sticholysin III: A newly discovered actinoporin within the venom of the sea anemone *Stichodactyla helianthus***. *Archives of Biochemistry and Biophysics*, 108435.
- Palacios-Ortega, J., García-Linares, S., Rivera-de-Torre, E., Gavilanes, J. G., Martínez-del-Pozo, Á., & Slotte, J. P. (2019). **Sticholysin, Sphingomyelin, and Cholesterol: A Closer Look at a Tripartite Interaction.** *Biophysical Journal,* 116(12), 2253-2265. Chosen *Article of the Month* by the SEBBM. (https://www.web2020.sebbm.es/web/es/divulgacion/articulo-mes/3520-sticholysin-sphingomyelin-and-cholesterol-a-closer-look-at-a-tripartite-interaction)
- Rivera-de-Torre, E., Palacios-Ortega, J., Gavilanes, J. G., Martínez-del-Pozo, Á., & García-Linares, S. (2019). **Pore-Forming Proteins from Cnidarians and Arachnids as Potential Biotechnological Tools.** *Toxins,*11(6), 370.
- Al Sazzad, M.A., Moüts, A., Palacios-Ortega, J., Lin, K-L., Nyholm, T. K.M., & Slotte, J. P. (2019) **Natural ceramides and lysophospholipids co-segregate in fluid phosphatidylcholine bilayers.** *Biophysical Journal, 116(6),*1105-1114.
- García-Ortega, L., Palacios-Ortega, J., & Martínez-del-Pozo, Á. **Fungal Ribotoxins**. (2018) *eLS,*1-9.
- Palacios-Ortega, J., García-Linares, S., Rivera-de-Torre, E., Gavilanes, J. G., Martínez-del-Pozo, Á., & Slotte, J. P. (2017). **Differential Effect of Bilayer Thickness on Sticholysin Activity.** *Langmuir, 33*(41), 11018-11027.
- García-Linares, S., Rivera-de-Torre, E., Palacios-Ortega, J., Gavilanes, J. G., & Martínez-del-Pozo, Á. **The Metamorphic Transformation of a Water-Soluble Monomeric Protein Into an Oligomeric Transmembrane Pore.** *Advances in Biomembranes and Lipid Self-Assembly* (Vol. 26, pp. 51-97). Academic Press.
- Rivera-de-Torre, E., Palacios-Ortega, J., García-Linares, S., Gavilanes, J. G., & Martínez-del-Pozo, Á. (2017). **One single salt bridge explains the different cytolytic activities shown by actinoporins sticholysin I and II from the venom of Stichodactyla helianthus.** *Archives of Biochemistry and Biophysics, 636,*79-89.
- García-Linares, S., Palacios-Ortega, J., Yasuda, T., Åstrand, M., Gavilanes, J. G., Martínez-del-Pozo, Á., & Slotte, J. P. (2016). **Toxin-induced pore formation is hindered by intermolecular hydrogen bonding in sphingomyelin bilayers**. *Biochimica et Biophysica Acta (BBA)- Biomembranes, 1858*(6), 1189-1195.

- Palacios-Ortega, J., García-Linares, S., Åstrand, M., Al Sazzad, M. A., Gavilanes, J. G., Martínez- del-Pozo, Á., & Slotte, J. P. (2016). **Regulation of sticholysin II-induced pore formation by lipid bilayer composition, phase state, and interfacial properties.** *Langmuir, 32*(14), 3476-3484.

C. 2. Projects

- **Determination of the structure of an actinoporin pore in lipid nanodiscs.** PID:18916 - Sample to Structure, Madrid, Spain. iNEXT-Discovery (Tech-Sci). IP: Juan Palacios-Ortega
- **Structural studies of pore-forming toxins in lipid nanodiscs.** PID:18106 - Sample to Structure, Madrid, Spain. Instruct. IP: Juan Palacios-Ortega
- **Biophysical aspects of the metamorphosis of water-soluble proteins that are integrated into themembrane.** (18/12/2017–18/12/2018) IP: Álvaro Martínez del Pozo. Funded by U. Complutense de Madrid. Role: Researcher.
- **Chemical-physical aspects of the metamorphosis of water-soluble proteins that are integrated into themembrane.** (14/11/2018–20/05/2020) IP: Álvaro Martínez del Pozo. Funded by U. Complutense de Madrid. Role: Researcher.
- **Tvenom toxins of the black widow spider as a model of giant pore-forming proteins.** (04/12/2019–12/06/2021). IP: Álvaro Martínez del Pozo. Funded by U. Complutense de Madrid. Role: Researcher.

C. 3. Contracts

- **Predoctoral contract at Åbo Akademi University.** Funded by Åbo Akademi University / National Network of Informational and Structural Biology (ISB-Finland) with the aim of developing a doctoral research project. One of the 19 candidates selected out of 62 applicants. Duration: 01/01/2018–31/12/2021.
- **Predoctoral contract UCM-Santander (2017-CT17/17).** Funded by UCM and Banco Santander. Duration: up to 5 years. Declined due to incompatibility.

C. 4. Patents

Not applicable.

C.5. Awards and Scholarships Received

- **Prize "Alfthanska Priset".** Prize of the Finnish Society of Chemistry (Finska Kemisamfundet) for the best doctoral thesis presented in Finland in 2021 in the fields of chemistry, biochemistry and chemical engineering. Amount: 3000 €.
- **Collaboration Scholarship.** Funded by the Ministerio de Educación, Cultura y Deporte with the aim of developing a research project during the Master's degree. Duration: 01/11/2016–31/06/2017. Amount: 2000 €.
- **Erasmus+ Scholarship.** Funded by the Ministerio de Educación, Cultura y Deporte for a full year Erasmus+ stay at the Univ. Åbo Akademi of Turku (Finland). Duration: 01/09/2015–31/06/2016. Total received: 2000 €.

C.6. Scientific Meetings

- **64th Annual Meeting of the Biophysical Society.** In San Diego, CA (USA), February 2020. Poster presented: Palacios-Ortega, J., Rivera-de-Torre, E., García-Linares, S., Gavilanes, J. G., Martínez-del-Pozo, Á., & Slotte, J. P. (2019). **A Fluorescent-Based Approach to Unravel Protein- Protein Interactions in Actinoporins**. https://www.cell.com/biophysj/pdf/S0006-3495(19)33126-1.pdf
- **63rd Annual Meeting of the Biophysical Society.** In Baltimore, MD (USA), March 2019. Presenting the poster: Palacios-Ortega, J., García-Linares, S., Rivera-de-Torre, E., Gavilanes, J. G., Martínez-del-Pozo, Á., & Slotte, J. P. (2019). **Sticholysin, Sphingomyelin, and Cholesterol: A Closer Look into a Tripartite Interaction.** https://www.cell.com/biophysj/pdf/S0006-3495(18)34057-8.pdf
- **Joint 12th EBSA 10th ICBP-IUPAP Biophysics Congress: Biophysics for Life and Technology.** In Madrid (Spain), July 2019. Participation as onsite volunteer in the organization of the event. In addition, presenting the poster: Palacios-Ortega, J., García-Linares, S., Rivera-de-Torre, E., Gavilanes, J. G., Martínez-del-Pozo, Á., & Slotte, J. P. (2019). **Sticholysin, Sphingomyelin, and Cholesterol: A Closer Look into a Tripartite Interaction.** Co-author of the posters: Rivera-de-Torre, E., Palacios-Ortega, J., Gavilanes,

J. G., Slotte, J. P. & Martínez-del-Pozo, Á. (2019). **Structural and functional characterization of StnIII: a newly discovered actinoporin regulating *S. helianthus* venom activity** (voted best of its session) and Möuts, A., Al Sazzad, M. A., Palacios-Ortega, J., Lin, K.-L., Nyholm, T. K.M. & Slotte, J. P. (2019). **Intrinsic curvature and large head group of co-lipids influence segregation of ceramides in bilayer membranes.**

- **7th Joint Turku – Tartu Meeting**. In Tartu (Estonia). Presenting the poster: Palacios-Ortega, J., **Sticholysins, Sphingomyelin and Cholesterol: a Closer Look into a Tripartite Interaction using a mathematical model to determine the relative distribution of two molecules within the membrane.**

C.7. Courses

- **16th European Short Course on Principles and Applications of Time-Resolved Fluorescence Spectroscopy**. In Berlin (Germany). Organized by PicoQuant GmbH and Von Humboldt University of Berlin, taught by Prof. J. R. Lakowicz (Baltimore) and Z. Gryczynski (Texas).

C.8. Seminars

- **Oligomerization of Sticholysins from Förster Resonance Energy Transfer.** (24/04/2021). Seminar *in English* within the *Monthly Bioseminar* cycle, of the departments of Biochemistry and Cell Biology of the Univ. Åbo Akademi, in Turku, Finland.
- **Sticolysins, sphingomyelins and cholesterol. A tripartite interaction?** (12/07/2019). Seminar within the cycle BBM Research Days, which are held annually in the Department of Biochemistry and Molecular Biology of the UCM.
- **Sticholysins, Sphingomyelin and Cholesterol: overview of my latest work.** (12/03/2019). Seminar *in English* within the *Monthly Bioseminar* cycle, of the departments of Biochemistry and Cell Biology of the Univ. Åbo Akademi, in Turku, Finland.

C.9. Dissemination and teaching innovation projects

- " Décima Noche Europea de los Investigadores e Investigadoras ", Madrid. Poster: **Proteínas tóxicas formadoras de poros producidas por cnidarios y arácnidos.**
- Teaching innovation project UCM (INNOVA-DOCENCIA) entitled "IamAble" (2016-2020, project nº 73). Activities"Bioquímica del otoño", "Con S de supersaliva" y "Maicena no Newtoniana".
- García-Linares, S.; Rivera-de-Torre, E.; Palacios-Ortega, J,; Martínez-del-Pozo, Á. **Persiguiendo la conversión de venenos en tratamientos mediante la comprensión de la metamorfosis de las actinoporinas.** **http://www.ucm.es/data/cont/docs/3-2017-02-21-2017_02_not10.pdf**

C.10. Teaching

- **Erasmus Student Supervisor.** Supervision of the lab work of Diego Heras Márquez during his Erasmus SMP Practicas stay at the Biochemistry Laboratory directed by Prof. Slotte at the Univ. Åbo Akademi (Turku, Finland). 06/16/2019–08/31/2019.
- **Erasmus Student Supervisor.** Supervision of Anna Porcher's laboratory work duringher Erasmus Practicas stay at the Biochemistry Laboratory directed by Prof. Slotte at the Univ. Åbo Akademi (Turku, Finland). 01/06/2018–31/08/2018.
- **Collaborating student, support for the teaching in lab practice.** In the following subjects:
  - **Industrial Biochemistry,** 4th y., Chem. Engineering Degre UCM. October 2017, 18 h.
  - **Cell cultures and transgenesis,** 4th y., Biology Degree UCM. October 2017, 14 h (morning shift + afternoon shift).
  - **Biochemistry,** 3rd y., Chemistry Degree UCM. May 2017, 25 h.
- **Student Supervisor of the 4th ESO + Empresa program.** Supervision of 5 students during their stay at UCM. April 2017.
- **Erasmus Student Supervisor.** Supervision of the laboratory work of 3 students in their Erasmus Internship at UCM. 13/10/2016–11/11/2016.