

JORGE PARRÓN-BALLESTEROS

PhD student and researcher in Allergen group, Biochemistry and Molecular Biology
Department, Faculty of Chemistry, Complutense University of Madrid

ORCID ID: 0000-0002-9048-7013

jparron@ucm.es

+34 91 394 41 48

Education:

Bachelor's Degree in Biochemistry (Completed in 2019)

Master's Degree in Biochemistry and Molecular Biology (Completed in 2020)

Currently pursuing a Ph.D. in Biochemistry and Molecular Biology (Since October 2020)
Department of Biochemistry and Molecular Biology, Faculty of Chemistry, UCM

Additional Training, Teaching, Outreach, and Others:

Animal Experimentation Course, Functions B and C (50 hours), Animalaria (2021)

Support for practical sessions in Biochemistry for the Biology Degree for 165 hours and in Enzyme Biotechnology for 15 hours between 2022-2025, both in the Complutense University of Madrid.

Supervision of a 280-hour Erasmus+ student placement from the University of Strathclyde (2021) and an undergraduate student from Complutense University Biochemistry Bachelor's Degree (2023).

Supervision and formation of three associate degree students from the Clinical and Biomedical Laboratory Technician degree (Scientia Alhucema school, 2021, 2022 and 2023), for 360 hours each one.

Grants:

Collaboration Grant in UCM Department (Academic Year 2018-19)

Excellence Master's Grant UCM (Academic Year 2019-20)

Contracts:

June-September 2021 and December 2021-October 2022: Research Support Staff - PAI-I
UCM

November 2022-Present: UCM-Santander Predoctoral Fellowship

International stays:

April-June 2024: three-month stay at the Immunological Biochemistry Lab, Bioengineering
Department, Technical University of Denmark (DTU).

Participation in Research Projects:

As Undergraduate student: SAF-2017-86483 (October 2018-July 2019)

As Master student: SAF-2017-86483 (September 2019-July 2020)

As part of the research team: SAF-2017-86483 (September 2020-September 2021) and PID2020-116692RB-I00 (September 2021-Present), both at the Department of Biochemistry and Molecular Biology, Faculty of Chemistry, UCM.

Publications:

1. Bueno-Diaz, C., Martin-Pedraza, L., **Parron, J.**, Cuesta-Herranz, J., Cabanillas, B., Pastor-Vargas, C., Batanero, E. & Villalba, M. (2021) Characterization of Relevant Biomarkers for the Diagnosis of Food Allergies: An Overview of the 2S Albumin Family, *Foods*. **10**.
2. Gamella, M., Laza, A., **Parron-Ballesteros, J.**, Bueno, C., Ruiz-Valdepenas Montiel, V., Pedrero, M., Bertolino, F. A., Pingarron, J. M., Villalba, M. & Campuzano, S. (2023) First PCR-free electrochemical bioplatfrom for the detection of mustard Sin a 1 protein as a potential "hidden" food allergen, *Bioelectrochemistry*. **150**, 108357.
3. **Parron-Ballesteros, J.**, Gordo, R. G., Lopez-Rodriguez, J. C., Olmo, N., Villalba, M., Batanero, E. & Turnay, J. (2023) Beyond allergic progression: From molecules to microbes as barrier modulators in the gut-lung axis functionality, *Front Allergy*. **4**, 1093800.
4. Bueno-Diaz, C., Zuurveld, M., Ayeche-Muruzabal, V., Korsten, S., Martin-Pedraza, L., **Parron-Ballesteros, J.**, Redegeld, F., Garssen, J., Villalba, M. & Willemsen, L. E. M. (2024) Mustard seed major allergen Sin a1 activates intestinal epithelial cells and also dendritic cells that drive type 2 immune responses, *Food Funct*. **15**, 6488-6501.
5. Castromil-Benito, E. S., Betancor, D., **Parron-Ballesteros, J.**, Bueno-Diaz, C., Gutierrez-Diaz, G., Turnay, J., Heras, M. L., Cuesta-Herranz, J., Villalba, M. & Pastor-Vargas, C. (2024) Walnut Jug r 1 is Responsible for Primary Sensitization among Patients Suffering Walnut-Hazelnut 2S Albumin Cross-Reactivity, *J Agric Food Chem*. **72**, 18162-18170.
6. Coloma, I., **Parron-Ballesteros, J.**, Cortijo, M., Cuerva, C., Turnay, J. & Herrero, S. (2024) Overcoming Resistance of Caco-2 Cells to 5-Fluorouracil through Diruthenium Complex Encapsulation in PMMA Nanoparticles, *Inorg Chem*. **63**, 12870-12879.
7. Gil, M. V., Fernandez-Rivera, N., Gutierrez-Diaz, G., **Parron-Ballesteros, J.**, Pastor-Vargas, C., Betancor, D., Nieto, C. & Cintas, P. (2024) Antioxidant Activity and Hypoallergenicity of Egg Protein Matrices Containing Polyphenols from Citrus Waste, *Antioxidants (Basel)*. **13**.
8. Gutierrez-Diaz, G., Betancor, D., **Parron-Ballesteros, J.**, Gordo, R. G., Castromil-Benito, E. S., Haroun, E., Vazquez de la Torre, M., Turnay, J., Villalba, M., Cuesta-Herranz, J. & Pastor-Vargas, C. (2024) Identification of New Allergens in Macadamia Nut and Cross-Reactivity with Other Tree Nuts in a Spanish Cohort, *Nutrients*. **16**.
9. **Parron-Ballesteros, J.**, Martin-Pedraza, L., Gordo, R. G., Mayorga, C., Pastor-Vargas, C., Titau-Delgado, G. A., Villalba, M., Batanero, E., Pantoja-Uceda, D. & Turnay, J. (2024) Long-chain fatty acids block allergic reaction against lipid transfer protein Sola I 7 from tomato seeds, *Protein Sci*. **33**, e5154.
10. Gil, M. V., Gutierrez-Diaz, G., Higuero, N., Palma, E., Fernandez-Rivera, N., **Parron-Ballesteros, J.**, Betancor, D., Pastor-Vargas, C., Cintas, P. & Delgado-Adamez, J. (2025)

Targeting cow's milk allergy using hypoallergenic protein-polyphenol formulas: A proof of concept, *Food Chem.* **463**, 141285.

Conference Presentations:

“Influence of the interaction of the Sola I 7 allergen with lipid ligands. Structural and immunological implications” at the Congress of students of the Biochemistry and Molecular Biology Department – UCM (2023)

“Study of the reparative effect of butyrate on the intestinal epithelium damaged by proteases” at the 7th PhDay of the Chemistry Sciences Faculty – UCM (2023)

Poster presentations as the lead author:

Poster presentation (as the lead author) "Development of a cell model system to study food allergen-induced immune response" and oral communication at the XIX SEBC Congress (2021).

E-poster presentation (as the lead author) "Sola I 7, the major allergen from tomato seeds, interacts with fatty acids and is uptaken by enterocytes in an epithelial barrier model" at the EAACI Hybrid Congress 2022.

Poster presentation (as the lead author) "An in vitro model of bronchial epithelium for chronic exposure to environmental proteases" at the EAACI Summer Symposium on Epithelial Barriers and Microbiome (2022).

Poster presentation (as the lead author) "In vitro mimicry of chronic epithelial barrier disruption to study the role of short chain fatty acids in allergy" at the World Immune Regulation Meeting (WIRM) (2023).

Poster presentations:

Poster: "Effect of Sin a 1, the major allergen from mustard seeds, on a model system of intestinal epithelium" at the XIX SEBC Congress (2021).

Poster: “Allergen identification in an emerging predatory mite, *Cheyletus eruditus*. Cross-reactive analysis with other mite allergens” at the EAACI Congress 2024.

Poster: “Identification of new allergens in macadamia nut and cross-reactivity with other tree nuts in a Spanish cohort” at the EAACI Congress 2024.

Poster: “Anaphylactic reaction to gelatin in a vaccine: A case report” at the EAACI Congress 2024.