

PERSONAL INFORMATION

Caleb Samir **Calix Rivera**

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Gender: **Male** | Date of birth: **11/08/1991** | Nationality: **Honduran (HN)**

Age: **31 years** | Civil status: **Single**



EDUCATION

November 2020 – Present.

PhD in Agri-Food and Biosystems Science and Engineering

PROCEREALTech research group, University of Valladolid, Spain.

Directors: Dra. Felicidad Ronda and Dra. Marina Villanueva.

PhD. Thesis: Impact of physical treatments on the functionality of high nutritional value flours and their application in the development of gluten-free products.

September 2015 – July 2016.

Master's degree in Food Quality, Development and Innovation

Higher Technical School of Agricultural Engineering (ETSIIAS), University of Valladolid, Spain.

MSc. Thesis: Effect of rice flour particle size on β -glucanase inactivation by microwave heat treatments. Average grade of 9,5/10.

February 2008 – March 2015.

Ingeniero Agroindustrial

National Autonomous University of Honduras, UNAHEC-DANLÍ, Honduras.

Average grade of 88/100. Extraordinary Award: "CUM LAUDE".

PROFESSIONAL EXPERIENCE

November 2020 – Present.

Predoctoral Researcher at University of Valladolid

Doctoral thesis developed in the research group PROCEREALTech, in the Department of Agricultural and Forestry Engineering, University of Valladolid, Spain.

Project: Molecular and structural changes induced by emerging hydrothermal treatments for functional, sensory and nutritional improvement of gluten-free products. (PID2019-110809RB-I00).

Project: Treatment of novel grains of high nutritional value with microwave radiation. Molecular basis of induced techno-functional changes for the improvement of gluten-free products. (VA195P20).

Project: Applicability of physical treatments to improve the baking properties of non-baking wheat.

May 2017 – October 2020.

Full professor 1, National Autonomous University of Honduras (UNAH)

Pacific Littoral Regional University Center (UNAH-CURLP), Department of Agro-industrial Engineering. <https://curlp.unah.edu.hn/>

- Teaching classes in the Agroindustrial Engineering degree program.

Classes Taught: Food Technology, agroindustrial research seminar, agroindustrial processes, agroindustrial introduction, processing of basic grains, fruits and vegetables.

January 2017 – May 2017.

Professor per hour, National Autonomous University of Honduras (UNAH)

National Autonomous University of Honduras Technological Danlí (UNAHEC-Danlí), Department of Agro-industrial Engineering. <https://tecdanli.unah.edu.hn>

- Teaching classes in the Agroindustrial Engineering degree program.

Classes Taught: Food Technology, agroindustrial waste management.

April 2016 –
May 2016.

Soluble coffee quality control assistant, SEDA OUTSPAN IBERIA.

Seda Outspan Iberia, Street Faustino Calvo, 1, 34005, Palencia, Spain. www.sedaoutspan.com

- Quality analysis department: sensory and statistical analysis

Activities: Final product sensory analysis, in-process quality control and documentation management.

October 2014 –
January 2015.

Quality control assistant and production supervisor, PALCASA.

Village, El Castaño KM15-CA13, El Progreso road to Tela, Atlántida, Honduras. <https://www.grupopalcasa.com/>

- Quality and production analysis department.

Activities: Quality analysis of crude palm oil, quality control and supervision during processing and supervision of the occupational health and safety system.

Other teaching activities.

- **Teaching in the Degree of Agricultural and Food Industries Engineering.** (University of Valladolid) in Basic Operations, Physical Properties of Food and Food Technology classes. (2021, 2022)
- **Teaching in the Master's degree in Food Quality, Development and Innovation** (University of Valladolid) in the classes of Physical Properties of Foods. Sensory Analysis and Food Ingredients and Additives. (2020, 2021)
- **Supervision of 1 MSc thesis for the master's degree in Food Quality, Development and Innovation** (University of Valladolid). (2022)
- **Tutor of 1 in-company internship student** (University of Valladolid). (2021)
- **Supervision of 30 Final Degree Research Projects for the degree in agroindustrial engineering** (National Autonomous University of Honduras). (2018, 2019, 2020)

PROFESSIONALS SKILLS

Characterization of flours: techno-functional properties (hydration, foaming, emulsification, and gel-forming capacities), thermal properties (Differential Scanning Calorimetry), viscosimetric profiles (RVA, viscometers), particle size distribution (Mastersizer 2000), chemical composition (moisture, ash, protein, fat, fiber...), Fourier-Transform Infrared Spectroscopy (FTIR), Scanning Electron Microscope (SEM), color. (CIELAB), Nuclear Resonance Magnetic (NRM), Protein fractionation (Method Bradford), confocal laser scanning microscopy.

Rheology: dough and gels. Dynamic oscillatory test (frequency and strain sweeps, oscillatory-time test), creep recovery tests.

Texture analysis of food: compression (TPA)

Bakery products: gluten-free bread formulation and processing. Color, texture, volume and crumb grain characterization of bread, sensorial analysis.

Physical modification of flours and grains: with hydrothermal treatments by microwave radiation.

Quality analysis of crude palm oil: Moisture, acidity, impurities, free fatty acids, bleaching index deterioration.

Data analysis: SPSS, Statgraphics, Origin, Excel.

Other computer skills

Microsoft office (Word, powerpoint, teams, etc.), Omnic, MestreNova, Mendeley.

LANGUAGES

Spanish – Native

English – Level B1

AWARDS AND RECOGNITIONS

- **Winner of grant / predoctoral research contract:** University of Valladolid to perform PhD studies in Agri-Food and Biosystems Science and Engineering from 03 November 2020 to 02 November 2024.
- **Winner of Erasmus Mundus EURICA grant to perform master studies:** in "Food Quality, Development and Innovation" at the University of Valladolid from 14 September 2015 to 15 August 2016.
- **Awarded the "CUM LAUDE" merit** in the degree of Agroindustrial Engineering, UNAH. (2015).
- **Academic Excellence Awards, UNAH.** (2008, 2010, 2012, 2013).

PUBLICATIONS

- **Calix-Rivera, C.;** Pérez-Quirce, S.; Ronda, F. Effect of rice flour ultrafine particle size on β -glucanase inactivation by microwave treatments and pasting properties in treated flours. *Revis Bionatura* 2022;7(3) 10. <http://dx.doi.org/10.21931/RB/2022.07.03.10>

NATIONAL AND INTERNATIONAL CONGRESSES AND CONFERENCES

- **Calix-Rivera, C.S.**, Pérez-Quirce, S., Ronda, F. Effect of rice flour ultrafine particle size on β -glucanase inactivation by microwave treatments and pasting properties in treated flours. Oral Presentation. XIV Congress of Scientific Research UNAH 2022: in light of the 2030 agenda for sustainable human development. National Autonomous University of Honduras, Tegucigalpa, Honduras. 19-23 September 2022.
- **Calix-Rivera, C.S.**, Rau, D.N., Villanueva, Ronda, F. Microwave radiation treatment of tef grain and flour. Effect on its techno-functional properties. Poster presentation. Trends in grain-Based foods. IPB, Bragança, Portugal. 23-25 March 2022.
- **Calix-Rivera, C.S.**, Rau, D.N., Villanueva, M., Vicente, A., Abebe, W., Neves, G.N., Ronda, F. Brown tef whole grains treated by microwave radiation. Impact on techno-functional properties of the resulting flours. Poster presentation. 7th Whole Grain Summit. Online. 25-27 October 2021.
- Vicente, A., Villanueva, M., **Calix-Rivera, C.S.**, Gutiérrez, A.L., Caballero, P.A., Ronda, F. Microwave treatment of buckwheat grains at different moisture content and its effect on techno-functional and rheological properties of obtained flours. Poster presentation. 16th ICC Cereal and Bread Congress. Online. 29 - 31 March 2021.
- Ronda, F., Caballero, P.A., Harasym, J., Pérez-Quirce, S., Villanueva, M., Melendre, C., Jiménez, I., **Calix-Rivera, C.S.**, Carrillo, N., De Lamo, B., Esteban, C. Stabilization and Physical modification of starches and gluten-free flours. Poster presentation. BIET'17 Baking Ingredients, Enzymes and Technology. Barcelona, June 2017.
- **Calix-Rivera, C.S.** Importance of the study of gluten-free products, 1st International Agroindustrial Fair (FAI-UNAH), Palace of Sports UNAH. 2017.
- **Calix-Rivera, C.S.** GLUTEN-FREE PRODUCTS and Study of Beta-glucanase inactivation by microwave treatments, 11th congress of scientific research. UNAH (2017).
- **Calix-Rivera, C.S.** Agro-industrial profile of African palm in Honduras, 9th congress of scientific research UNAH. (2015).

COURSES

- Course "Molecular structure of carbohydrates and its effect on techno-functional and nutritional Properties", Presential organized by the Doctorate School of the University of Valladolid, 16h, 18-20 July 2022.
- Course "SPSS Data Analysis - Initial Level", Presential organized by the Doctorate School of the University of Valladolid, 20h, 25 May to 1 June 2022.
- Course "Qualitative Analysis Introduction: Practical Basics and Computer Resources", Online organized by the Doctorate School of the University of Valladolid, 25h, 9-30 May 2022.
- Course "Workshop on scientific dissemination for research staff", Online organized by the Doctorate School of the University of Valladolid, 15h, 14 - 16 December 2021.
- Course "Information Resources for Doctoral Students", Online organized by the Doctorate School of the University of Valladolid, 40h, 25 January to 26 February 2021.
- Seminar "Initiation to the writing and publication of scientific articles", Online organized by the Doctorate School of the University of Valladolid, 4h, 11 December 2020.
- Course "Information Management. Bibliographic managers and bibliography", Online organized by the Doctorate School of the University of Valladolid, 20h, 23 November to 9 December 2020.
- Course "Pedagogy and University Didactics", Online organized by the Organization of Ibero-American States and UNAH, 100h, 9 September to 1 december 2019.
- Workshop on Food Sensory Analysis, Escuela Agrícola Panamericana "Zamorano". 19 - 20 August 2019.
- Workshop on dairy product processing, Escuela Agrícola Panamericana "Zamorano". 40h, 24 - 28 September 2018.
- Course on "Current trends in cereal-derived products for a healthy diet", organized by the Doctorate School of the University of Valladolid. (2016).

SCIENTIFIC DISSEMINATION ACTIVITIES

- IV Sustainable Science Fair 2022, Interactive space "Exploradores de nuevos granos para alimentar al mundo".
- Castilla y León Science Week 2021, presentation of the activity "Este taller tiene miga: abre tu mente al mundo del pan".
- European Researchers' Night of Castilla y León 2020, presentation on gluten-free dough.
- Castilla y León Science Week 2020, "Taller sobre celiacía".