1. Personal Details

Tiago Daniel Monteiro Vieira was born on December 2 of 1984 at Porto, single, Portuguese nationality. Contacts: Phone number (+351-933830888), e-mail (tdmvieira@gmail.com).

2. Academic Qualifications

30/06/2022: Ph.D. in Food Science and Engineering, 4 years programme, by the University of Lisbon - ISA (Food and Agriculture Faculty) (Classification: "Approved with praise and distinction by unanimity", 20 points in 20);

2013: Master in Quality Control - specialization in water and food, 2 years programme, by the University of Porto – Faculty of Pharmacy (Classification: 17 points in 20);

2008: Barchelor degree in Agronomic Engineering, 5 years programme, by the University of Porto – Faculty of Sciences (Classification: 15 points in 20).

3. Professional Experience

2021-30/09/2022: Tiago worked as a Fellow Researcher at LAQV/REQUIMTE research group in NOVA School of Science and Technology - NOVA University Lisbon in partnership with INL (International Iberian Nanotechnology Laboratory), under the project POCI-01-0145-FEDER-031559. His research was focused on the development of an optical membrane sensor applicable for environmental monitoring of toxic ammonia gas emissions as well for pH levels measuring in aquatic systems, under the scope of Agriculture and animal Husbandry Sector. The sensor was based on polymeric membranes cellulose-based materials (developed by casting and electrospinning methods), incorporating optical dyes and nanoparticles (to enhance the optical signal), acquiring experience on optical proprieties (by absorption and fluorescent emission spectra analysis) and methods related (spectrophotometry). The developed membrane sensor will be attached to an electronic device for signal translation produced by the INL group research.

2018-2022: He was granted a PhD Full-scholarship funded by the University of Lisbon were he developed his work as Graduate Researcher at LEAF – (Linking Landscape, Environment, Agriculture and Food) Research Unit, focusing on the "Design of packaging systems to improve the shelf-life of highly perishable fruits". To accomplish that, he developed bio-based and bioactive packages (edible coatings and films based on optimization of emulsified formulations, crosslinked agents, and incorporated bioactive agents based on plant extraction techniques) all under green and sustainable processes, as substitutes to the conventional non-biodegradable packaging materials (petroleum-based plastic), along with fruit postharvest shelf-life studies under the packaging design. He also participated in some research collaborations with others PhD student projects. During his PhD research, he successfully write 5 scientific articles as first author.

2016-2018: Tiago had the opportunity to work as Laboratoy Manager at Freshness Lab, ISA - University of Lisbon, being responsible for the inventory of biological agents and reagents, update of databases protocols and implementing safety procedures (NP EN ISSO 9000:2005, 9001:2008 e 22000:2005 and 17025:2005), and training undergraduate and master's students in the use of the research unit equipment's (GC-MS, texturometer, rheometer). He also assisted as Project Manager for European project funds application, under Action 1.1 (Operational Groups), integrated into Measure 1. (Innovation) of the Rural Development Program of the Continent (PDR2020), where he gained experience in the coordination and dynamization of the operational group, implementation and dissemination of the action plan. He also assisted in technical postharvest reports for fresh production.

2011-2016: He worked as a Data Analyst/Reporting at SONAECOM SA (Matosinhos, Porto), being responsible for the analysis of big databases (using the Microsoft Office Access advance tool) for the construction of activity maps and report files of different nature, as well for the identification of alerts in

different operational areas, acquiring also knowledge in business tools (BO XI, BO Data Integration, Web Intelligence Rich Client, SAP and PrimeBI) and programming code (html, css, sql, ruby).

2012-2014: He decided to do is Master's degree, at Faculty of Pharmacy (University of Porto), where in the course of his formation, worked as Graduate Researcher for the LAQV/REQUIMTE research group at the Laboratory of Bromatology and Hydrology, focusing on the development of methods (solid-phase extraction (SPE), purification of samples (Cleanup), immunoaffinity chromatography procedures and reversed-phase liquid chromatography (LC) with fluorescence detection) for the control of mycotoxins (ochratoxin A) in coffee and substitutes (cereal beverages). The results of his research resulted in one scientific article as second-author and two book chapters as first author in International publisher.

2009-2011: He decided to gain experience in the Food industry under a national program trainee (IEFP), in a mushroom production factory (Sousacamp - Varandas de Sousa, Lda). During and after is trainee as Quality Manager, he was responsible for the implementation and validation of ISO-9001 and monitoring of "Quality and processes".

2009: He worked as a Fellow Researcher at Faculty of Biotechnology (Católica Porto University) under the project PTDC/AGR-ALI/66144/2006. He study was focused on the biochemical mechanisms involved in the colour change in the minimally processed "Rocha" pear and the correlation with the catalytic activity of the polyphenoloxidase (PPO) enzyme, to prevent the incidence of enzymatic browning and understand the mechanisms inherent to this process in 'Rocha' pear, publishing as second co-author is first scientific article.

2007-2008: In his final year of completing the Agronomic Engineering degree, Tiago worked as a graduate Researcher for the LAQV/REQUIMTE research group at the Laboratory of Bromatology and Hydrology (Faculty of Pharmacy - University of Porto), where he had the opportunity to learn Genetics and Evolutionary Plants techniques (based on genomic DNA extraction procedures, PCR amplification, exploring intra- and interspecific genetic distances using "taxondna" program). His study was focused on assessing candidate plant barcode DNA regions (matk, rpoC1, psbA-trnH spacer and nrITS), in Portuguese legume germplasm (22 species of clovers - genus *Trifolium* L.).

4. Technical and management competences

- Experience in performing chromatographic analysis methods (HPLC and GC-MS).
- Knowledge and experience in management and quality control implemention (ISO 9000:2005, 9001:2008; 17025:2005; 22000:2005) in Food industry and Laboratories;
- Experience in certification of product quality (under food production factory) and development of methologies for microbiological quality and biochemical control of different food products;
- Experience in implementing molecular biology methodologies, namely, DNA extraction, PCR technique and sequencing.
- Experience in the development of membranes (dense, porous and fibrous), through different methods (casting, electrospinning, nanoparticles), for different application areas (food packaging design and environmental monitoring).
- Experience in data analysis of big databases and report files preparation (using the Microsoft Office Access advance tool) and alerts in different operational areas, with knowledge in business tools.

5. Personal competences and additional information

- Possess good communication skills;
- Domain of English language, written and verbal;
- Ability to organize and plan;
- Autonomy and critical thinking;
- Capacity for analysis and systematization;
- Willingness to learn and work under pressure;
- Availability to travel;
- Possess a driver's license (B and B1 category).

6. Research Activities

6.1. Collaboration in Scientific Projects

- Project "Óptima – Environmental monitoring of ammonia emissions through an integrated and autonomous optical platform" financed by private non-profit research organization NOVA.id.FCT – Associação para a Inovação e Desenvolvimento da FCT, and by European funds – COMPETE 2020 and national funds by FCT – Fundação para a Ciência e Tecnologia (POCI-01-0145-FEDER-031559).
- Project "Physiological basis of texture and color changes in minimally processed 'Rocha' pear and melon: implications for the development of technologies and processes" financed by FCT – Fundação para a Ciência e Tecnologia (PTDC/AGR-ALI/66144/2006).

6.2. Scientific Publications – ISI journals

- **Vieira, T.M**., Huertas, R., Canejo, J., Oliveira, H., Godinho, H., Crespo, J.G., & Portugal, C.A.M. (2023) Luminescent two-dye membrane sensors for pH detection: effect of membrane morphology on the sensor performance (submitted to Sensors).
- **Vieira, T.M.**, Moldão-Martins, M., & Alves, V.D (2022) Application of an Eco-friendly Antifungal Active Package to Extend the Shelf Life of Fresh Red Raspberry (Rubus idaeus L. cv. 'Kweli'). *Foods*, 11(12), 1805. DOI: 10.3390/foods11121805. IF: 5.561; Q1.
- **Vieira, T.M.**, Moldão-Martins, M. & Alves, V.D. (2021) Design of chitosan and alginate emulsion-based formulations for the production of monolayer crosslinked edible films and coatings. *Foods*, 10(7), 1654. DOI: 10.3390/foods10071654. IF: 5.561; Q1.
- **Vieira, T.M.**, Moldão-Martins, & M. Alves, V.D. (2021). Composite coating of chitosan and alginate emulsions with olive oil to enhance postharvest quality and shelf life of fresh figs (Ficus carica L. cv. 'Pingo De Mel'). *Foods*, 10(4), 718 DOI: 10.3390/foods10040718. IF: 5.561; Q1.
- **Vieira, T.M.**, Brito L., Viegas, Â., Andrade, M., Sanchez-Silva, A., Moldão-Martins, M.; & Alves, V.D. Characterization of antifungal chitosan active film-pads based on chitosan with incorporated green tea and rosemary extracts (submitted to Membranes).
- **Vieira, T.M**., Moldão-Martins, M.; Alves, V.D. Advances in Packaging Materials and Technologies for Shelf Life Enhancement of Highly Perishable Fruits: A review (submitted to Polymers).
- Gouveia, A.S.L, Bumenn, E., Rohtlaid, K., Michaud, A., **Vieira, T.M.**, Alves, V.D., Tomé, L.C., Plesse, C., & Marrucho, I.M. (2021). Ionic liquid-based semi-interpenetrating polymer network (sIPN) membranes for CO2 separation. *Separation and Purification Technology*, 274, 118437. DOI: 10.1016/j.seppur.2021.118437. IF: 7.312; Q1.
- Casal, S., **Vieira, T.**, Cruz, R. & Cunha, C. S. (2014). Ochratoxin A residues in commercial soluble coffee and coffee substitutes. *Food Research International*, 61, 56-60pp. DOI: 10.1016/j.foodres.2014.04.045. IF: 6.475; Q1.
- **Vieira, T.**, Cunha, S., & Casal, S. (2014). Micotoxins in coffee. In: *Coffee in Health and Disease Prevention*. Edited by Victor R. Preedy, 1(25), 225-233pp DOI: 10.1016/B978-0-12-409517-5.00025-5
- **Vieira, T.**, Cunha, S., & Casal, S. (2014). Analysis of the mycotoxin ochratoxin A in coffee. In: *Coffee in Health and Disease Prevention*, Edited by Victor R. Preedy, 4(112), 1023-1030pp DOI: 10.1016/B978-0-12-409517-5.00112-1
- Gomes, M.H., **Vieira, T.**, Fundo, J.F., & Almeida, D.P.F. (2014). Polyphenoloxidase activity and browning in fresh-cut pear Rocha pear as affected by pH, phenolic substrates, and antibrowning additives. *Postharvest Biology and Technology*, 91, 32-38pp. DOI: 10.1016%2Fj.postharvbio.2013.12.013. IF: 5.537; Q1.

6.3. Conference Presentations in International Scientific Meetings

Oral and Poster Communications

- **Vieira, T.M.**; Moldão-Martins, M.; Alves, V.D. (2022). Extending Shelf Life of Fresh Red Raspberry (*Rubus idaeus* L. cv. 'Kweli') Using an Eco-friendly Antifungal Active Package. In: XVI Encontro de Química dos Alimentos, XVIEQA, 23 to 26 October Instituto Politécnico, Castelo Branco, Portugal.
- **Vieira, T.M.**; Moldão-Martins, M.; Alves, V.D. (2021). Composite Coatings of Chitosan and Alginate Emulsions with Olive Oil to Enhance Postharvest Shelf Life of Fresh Figs (Ficus carica L. cv. 'Pingo De Mel'). In: XV Encontro de Quimica dos Alimentos, XVIEQA, 5 to 8 September Madeira University, Funchal, Portugal.
- **Vieira, T.**, Moldão-Martins, M., & Alves, D.A. (2019). Characterization of crosslinked biodegradable chitosan and sodium alginate emulsion-based films. In: XII edition of CIBIA, Iberoamerican Congress of Food Engineering, 1 to 4 July, Faro, Portugal.
- **Vieira, T.**, Alves, D.A., & Moldão-Martins, M. (2019). Enhancing shelf life of fresh figs (Ficus carica L.) using edible coatings based on chitosan and alginate emulsions with olive oil. In: EuroFoodChem XX Conference, 17 to 19 June, Porto, Portugal.
- **Vieira, T.**, & D.P.F. Almeida. (2017). Repartição anatómica dos compostos voláteis do aroma na pele, no pericarpo e no lóculo de tomate. In: VIII Congresso Ibérico de Ciências Hortícolas, 7 to 10 June, Coimbra (Portugal).
- **Vieira, T.**, Casal, S., Cruz, R., & Cunha, C.S. (2014). Ochratoxin A residues in commercial soluble coffee and coffee substitutes. In: IJUP14, 12 to 14 February, Porto, Portugal.
- **Vieira, T.**, Faria, M., & Nunes, E. (2009). Assessing Candidate Plant Barcod DNA in Portuguese Legume Germoplasm. In IJUP09, 25 to 27 February, Porto, Portugal.

Publications in Acta of Scientific Meetings

- **Vieira, T.,** & Almeida, D.P.F. (2020). Differences in volatile profiles of skin, pericarp, and locular gel of tomato fruit. *Actas Portuguesas de Horticultura*, nº 30. 676-683pp.
- Gomes, M.H., **Vieira, T.**, Fundo, J.F., & Almeida, D.P.F. (2012). Polyphenoloxidase activity and browning in fresh-cut 'Rocha' pear as affected by pH, phenolic substrates. *Acta Horticulturae (ISHS)* 934:591-597. DOI: 10.17660/ActaHortic.2012.934.78.

6.4. Scientific ID

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