

# ***Curriculum vitae***

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## **Education and training**

**PhD**  
(2015 -2019)

**PhD in Chemical and Biological Engineering**  
**University of Minho**

Funded by the European Social Fund under the scope of Norte2020 Program - Programa Operacional Regional do Norte. Thesis: "Novel organogel systems for enhanced food structure and functionality – a multiscale approach"

**MSc**  
(2005-2010)

**Master in Biological Engineering – Chemistry and Food Technology.**  
**University of Minho**

Master thesis: Bubble formation at perforated plate reactors: dynamics and bubble interactions.

## **Others courses, training and workshops**

- School of Advanced Sciences on Reversed Engineering of Processed Food  
Faculty of Food Engineering at the State University of Campinas, São Paulo, Brazil, from 25<sup>th</sup> September until 4<sup>th</sup> of October 2017.
- Course on Teamwork Skills: Communicating Effectively in Groups  
(Provided by Coursera) –University of Colorado 06/2020

- Course on Emotional Intelligence  
Provided by ACB – Associação Comercial de Braga; 25h course, 05/2020
- Workshop on *Communicating Science in Society*
- Course in Coaching techniques: "Coaching Excellence resides in us" TecMinho (Campus de Azurém da Universidade do Minho, 4800-058 Guimarães)
- NanoDigest Workshop at the International Iberian Nanotechnology Laboratory (INL) annual Summit – (2016, October 18-19)
- Strategic Planning and Innovation Management  
Course provided by the Doctoral Program in Chemical and Biological Engineering - Professor David O'Sullivan, from the National University of Ireland.
- Laboratory practice training course: Metrology and Technique Requirements  
NP EN ISO/IEC 17025:2005 - Curso de Formação em práticas de laboratório: Metrologia e Requisitos Técnicos NP EN ISO/IEC 17025:2005  
IPQ - Instituto Português da Qualidade Rua António Gião, 2, 2829-513 Caparica (Portugal)
- Course on pedagogical formation  
"Formação Pedagógica Inicial de Formadores", certificate Trainer certificate – CAP; Anysolutions, Lda (Portugal)
- Course of Management of Agriculture company  
Centro de Estudos Saber Superlativo, Braga (Portugal), - Curso de Gestão de Empresa Agrícola. Funded by QREN.
- First Aid Training in Laboratory Environment  
Braga Fire Department; Braga General Hospital

### **Scientific Visiting Experience**

- 2015  
(5 months) Faculty of Food Engineering. Prof. Rosiane Lopes da Cunha group at State University of Campinas, São Paulo, Brazil.  
**Study and characterization of organogel systems for enhanced structure and functionality (Rheology; Synchrotron SAXS)**
- 2010  
(6 months) Prof. Marek Ruzicka group at Department of Multiphase Reactors at the Institute of Chemical Process Fundamentals, Academy of Sciences of the Czech Republic, Prague, Czech Republic –  
**Study of hydrodynamics and interactions at perforated plate reactors.**

## **Work Experience**

- 2019  
(Ongoing since September)      **Research Fellow**  
INL - International Iberian Nanotechnology Laboratory
- 2015-2019      **Research activity and laboratorial work developed under the scope of the PhD in Chemical and Biological Engineering.**  
CEB - Centre of Biological Engineering, University of Minho Braga (Portugal)
- 2014-2016      **Research scientist in the European Project Ecobiocap - Ecoefficient Biodegradable Composite Advanced Packaging.** Work developed using bio-polymers and food-contact polymer extrusion with further characterization of materials  
CEB - Centre of Biological Engineering, University of Minho Braga (Portugal)
- 2012-2014      **Research scientist in the project "NanoBioCats - New polymeric materials for simultaneous catalysis and separation".** Financed by FCT -Fundação para a Ciência e Tecnologia.  
Mechanical characterization of polymeric materials produced by electrospinning; Diffusion and permeability studies  
CEB - Centre of Biological Engineering, University of Minho Braga (Portugal)
- 2012      **Ohmic Processing Engineer** in a partnership work between Fromageries BEL (16 Boulevard Malesherbes Paris 75008 - Paris, France) and the , University of Minho (Braga Portugal).

## **Orientation experience - Master supervision and mentorship**

### **Master students:**

2019-20 – Co-supervision of MSc student Tiago Pinto; Master degree thesis in Bioengineering - Master Branch of Biological Engineering (FEUP – Faculdade de Engenharia da Universidade do Porto) – Work intitled “Design of an oleogel-based system for the co-delivery of hydrophilic and lipophilic bioactives in foods” and developed at FEUP and INL.

2018 – Co-supervision of the Summer Internship of student Patrícia Faria; Work intitled “Edible Oleogels for Foods Aiming Fat Replacement” and developed at INL – International Iberian Nanotechnology Laboratory in the Food Processing Group.

2012-13 – Co-supervision of MSc student Marina Barbosa; Master degree thesis in Biological Engineering intitled as "Ohmic Heating as Food Processing" - Work developed at the Industry and Process Laboratory in Centre of at University of Minho.

In progress – MSc student Débora Oliveira; Master degree thesis in Food Science and Technology (University of Minho) – Work intitled “Oleogels loaded with antimicrobials and antioxidants for the extension of food shelf life”.

## **Awards and Prizes**

### **Winner of the Food & Nutrition Awards 2017.**

1<sup>st</sup> Prize Reward in the Category of Research and Development with the project entitled:

GeLife: Oleogels for fat substitution and development of healthier products.

This prize was attributed by recognition regarding the innovation in the nutrition sciences, food research, health and well-being.



## **Scientific performance**

### **Publications in peer reviewed journals**

**Martins, A.J.;** Lorenzo, J.M.; Franco, D.; Pateiro, M.; Domínguez, R.; Munekata, P.E.S.; Pastrana, L.; Vicente, A.; Cunha, R.; Cerqueira, M.A. Characterization of enriched meat-based pâté manufactured with oleogels as fat substitutes. *Gels* 2020, 1–15.

Okuro, P.K.; **Martins, A.J.;** Vicente, A.A.; Cunha, R.L. Perspective on oleogelator mixtures, structure design and behaviour towards digestibility of oleogels. *Curr. Opin. Food Sci.* 2020.

**Martins, A.J.;** Vicente, A.A.; Pastrana, L.M.; Cerqueira, M.A. Oleogels for development of health-promoting food products. *Food Sci. Hum. Wellness* 2020, 9, 31–39.

**Martins, A. J.,** Lorenzo, J. M., Franco, D., Vicente, A., Cunha, R. L, Pastrana, L. M., Quiñones, J. & Cerqueira, M. A. (2019). Omega-3 and Poly-Unsaturated Fatty Acids-Enriched Hamburgers Using Sterol-Based Oleogels. *Eur J Lipid Sci Technol*(2019).

Franco D, **Martins AJ,** López-Pedrouso M, Cerqueira MA, Purriños L, Pastrana LM, Vicente AA, Zapata C, and Lorenzo JM. Evaluation of linseed oil oleogels to partially replace pork backfat in fermented sausages. *J Sci Food Agric* :jsfa.10025 (2019).

Franco D, **Martins AJ,** López-Pedrouso M, Purriños L, Cerqueira MA, Vicente AA, Pastrana LM, Zapata C, and Lorenzo JM. Strategy towards Replacing Pork Backfat with a Linseed Oleogel in Frankfurter Sausages and its Evaluation on Physicochemical, Nutritional, and Sensory Characteristics. *Foods Multidisciplinary Digital Publishing Institute*; 8:366 (2019).

**Martins, A. J.,** Silva, P. Maciel, F., Pastrana, L. M., Cunha, R. L., Cerqueira, M. A., & Vicente, A. A. (2019). Hybrid gels: Influence of oleogel/hydrogel ratio on rheological and textural properties. *Food Research International*, 116, 1298-1305. doi: <https://doi.org/10.1016/j.foodres.2018.10.019>.

**Martins, A.J.;** Cerqueira, M.A.; Pastrana, L.M.; Cunha, R.L.; Vicente, A.A. Sterol-based oleogels' characterization envisioning food applications. *J. Sci. Food Agric.* 2019, 99, 3318–3325.

**Martins, A. J.,** Vicente, A. A., Cunha, R. L., & Cerqueira, M. A. (2018). Edible oleogels: An opportunity for fat replacement in foods. *Food and Function*, 9(2), 758–773. <https://doi.org/10.1039/c7fo01641g>.

**Martins, A. J.,** Cerqueira, M. A., Cunha, R. L., & Vicente, A. A. (2017). Fortified beeswax oleogels: Effect of  $\beta$ -carotene on the gel structure and oxidative stability. *Food and Function*, 8(11), 4241–4250. <https://doi.org/10.1039/c7fo00953d>.

Ramos, O. L., Pereira, R. N., **Martins, A.,** Rodrigues, R., Fuciños, C., Teixeira, J. A., Vicente, A. A. (2017). Design of whey protein nanostructures for incorporation

and release of nutraceutical compounds in food. *Critical Reviews in Food Science and Nutrition*, 57(7), 1377–1393. <https://doi.org/10.1080/10408398.2014.993749>.

**Martins, A. J.**, Cerqueira, M. A., Fasolin, L. H., Cunha, R. L., & Vicente, A. A. (2016). Beeswax organogels: Influence of gelator concentration and oil type in the gelation process. *Food Research International*, 84, 170–179. <https://doi.org/10.1016/j.foodres.2016.03.035>

**Martins, A. J.**, Bourbon, A. I., Vicente, A. A., Pinto, S., Lopes Da Silva, J. A., & Rocha, C. M. R. (2015). Physical and mass transfer properties of electrospun  $\epsilon$ -polycaprolactone nanofiber membranes. *Process Biochemistry*, 50(6), 885–892. <https://doi.org/10.1016/j.procbio.2015.03.017>.

Rodrigues, R. M., **Martins, A. J.**, Ramos, O. L., Malcata, F. X., Teixeira, J. A., Vicente, A. A., & Pereira, R. N. (2015). Influence of moderate electric fields on gelation of whey protein isolate. *Food Hydrocolloids*, 43, 329–339. <https://doi.org/10.1016/j.foodhyd.2014.06.002>.

**Stanovsky, P.**, Ruzicka, M. C., Martins, A., & Teixeira, J. A. (2011). Meniscus dynamics in bubble formation: A parametric study. *Chemical Engineering Science*, 66(14), 3258–3267. <https://doi.org/10.1016/j.ces.2011.02.004>.

### **Book Chapters**

**Martins, A. J.**, Pastrana, L. M., Vicente, A. A., & Cerqueira, M. A. (2018). Food Grade Polymers for the Gelation of Edible Oils Envisioning Food Applications BT - Polymers for Food Applications. In T. J. Gutiérrez (Ed.) (pp. 591–608). Cham: Springer International Publishing. [https://doi.org/10.1007/978-3-319-94625-2\\_22](https://doi.org/10.1007/978-3-319-94625-2_22).

### **Abstracts in international conferences and oral presentations**

Catarina Gonçalves, **Artur J. Martins**, Ana Isabel Bourbon, Isabel R. Amado, Miguel A. Cerqueira, and Lorenzo Pastrana. In-vitro bioaccessibility of beta-carotene in lipidic systems. DOF 2019 - 8th International Symposium on "Delivery of Functionality in Complex Food Systems" (Book of Abstracts). No. OC30-25014, Porto, Portugal, July 7th - 10th, 155-156, 2019. ISBN: 978-989-20-9533-2 (Oral Presentation)

Pedro Silva, Luiz Fasolin, **Artur J. Martins** and Antonio Vicente. Production of olive oil organogels: influence of beeswax concentration on physicochemical properties. DOF 2019 - 8th International Symposium on "Delivery of Functionality in Complex Food Systems" (Book of Abstracts). No. OC01-24991, Porto, Portugal, July 7th - 10th, 27-28, 2019. ISBN: 978-989-20-9533-2. (Oral Presentation)

Pedro Silva, Luiz Fasolin, **Artur J. Martins** and Antonio Vicente. (2019, 2-5 June) Production of olive oil organogels: Influence of candelilla wax concentration on physicochemical properties. Paper presented at the IFT 2019 | New Orleans' Morial Convention Center, New Orleans, United States of America. (Poster Presentation)

**Artur J. Martins** (2019, 12 April). Oral presentation intitled: "Cooking without fat? Oleogels: a strategy for the substitution of fats and the fortification of foods". Talk given at the XXIX Week of Nutrition (XXIX Semana da Nutrição) at the Faculty of Food and Nutrition of the University of Porto. ([Oral Presentation](#))

**Artur Martins**, Catarina Gonçalves, Isabel Amado, Lorenzo Pastrana, Rosiane Cunha, António Vicente and Miguel Cerqueira (2019, 2-4 April). Bioaccessibility of beta-carotene loaded oleogels. 6th International Conference on Food Digestion, Granada, Spain. ([Poster Presentation](#))

**Artur J. Martins**, Lorenzo, J.M., Franco, D., António A. Vicente, Rosiane L. Cunha, Lorenzo M. Pastrana, and Miguel A. Cerqueira (2018, 22-25 October). Digestion of beta-carotene loaded oleogels and transepithelial transport: *in-vitro* study. 19th IUFoST World Congress of Food Science and Technology, Mumbai, India. ([Poster Presentation](#))

Pedro Silva, Luiz Fasolin, **Artur J. Martins** and Antonio Vicente (2018, 22-25 October). Influence of carnauba wax concentration on the physicochemical properties of olive oil organogels. 19th IUFoST World Congress of Food Science and Technology, Mumbai, India. ([Poster Presentation](#))

**Artur J. Martins**, Lorenzo, J.M., Franco, D., António A. Vicente, Rosiane L. Cunha, Lorenzo M. Pastrana, and Miguel A. Cerqueira (2018, 17 October). Oleogels for the development of healthier meat-based food products. 1st NANOGATEWAY International Scientific Conference, Braga, Portugal. (Oral Presentation).

Maria A. Azevedo, **Artur J. Martins**, António A. Vicente, José A. Teixeira, Lorenzo Pastrana, Miguel A. Cerqueira (2018, 17 October). Development of nanostructured lipid carriers based on oleogel using rhamnolipids as surfactant. 1st NANOGATEWAY International Scientific Conference, Braga, Portugal. (Oral Presentation).

**Artur J. Martins**, Miguel A. Cerqueira, Catarina Gonçalves, Ana C. Pinheiro, Rosiane L. Cunha, Lorenzo M. Pastrana, and António A. Vicente (2017, 5-8 November). Beta-carotene loaded oleogels' texture and disintegration behaviour during *in-vitro* digestion, 7th International Symposium on Delivery of Functionality In Complex Food Systems, Auckland, New Zealand. ([Poster Presentation](#))

**Artur J. Martins**, Rosiane L. Cunha, Miguel A. Cerqueira and António A. Vicente (2017, 25 September - 4 October). Characterization of edible beeswax-based oleogels aiming at food incorporation. School of Advanced Sciences on Reversed Engineering of Processed Food. Faculty of Food Engineering, State University of Campinas, São Paulo, Brazil ([Poster Presentation](#))

**Artur J. Martins**, Pedro Silva, Filipe Maciel, Lorenzo M. Pastrana, Rosiane L. Cunha, Miguel A. Cerqueira and António A. Vicente (2017, 27-30 June). Hybrid gels: influence of water and oil phase on textural and rheological properties 19th Gums & Stabilisers for the Food Industry Conference: Hydrocolloid multifunctionality, Berlin, Germany. ([Poster Presentation](#))

**Artur J. Martins**, Miguel A. Cerqueira, Rosiane L. Cunha, António A. Vicente. (2016). *Impact of B-carotene fortification on rheological, oxidative and physical properties of beeswax oleogels*. Paper presented at the 2nd Congress on Food Structure & Design | FSD 2016 Antalya, Turkey. ([Oral presentation](#))

**Artur J. Martins**, Miguel A. Cerqueira, M. A., Luiz H. Fasolin, Rosiane L. Cunha, & António A. Vicente. (2016, 16-19 July). *Development of beeswax oleogels and the influence of gelator concentration and oil type in their final properties*. Paper presented at the IFT 2016 | Institute of Food Technologists Chicago, United States of America. ([Poster Presentation](#))

**Artur Martins**, D. M., Loïc Hilliou, António A. Vicente, José A. Covas. (2015, 26th February). *PHBV-based blown films: application to packaging of fresh vegetables*. Paper presented at the Ecobiocap - Invitation to build the next generation of sustainable food packaging in Europe, INRA-SUPAGRO Campus, Montpellier, France. ([Poster Presentation](#))

Clara Fuciños, **Artur J. Martins**, María-Luís Rúa, Lorenzo Pastrana António Vicente. (2014, 15-17 October). *Study of the kinetics of formation of  $\alpha$ -lactalbumin nanotubes in presence of manganese*. Paper presented at the 1st Congress on Food Structure Design FSD Porto, Portugal. ([Poster Presentation](#))

Oscar Ramos, R. P., **Artur J. Martins**, F. Xavier Malcata, António Vicente (2014, 10-12 September). *Development and characterization of  $\beta$ -lactoglobulin nanohydrogels for bioactive compound delivery*. Paper presented at the 12o EQA 2014 – XII Encontro Química dos Alimentos, Lisbon, Portugal. (Poster Presentation)

**Artur J. Martins**, A. I. B., António A. Vicente, J. A. Lopes da Silva, C. Rocha. (2014, 26-28 February). *Diffusion of different molecular weight proteins through poly  $\epsilon$ -caprolactone films with encapsulated trypsin*. Paper presented at the International Conference "Eco-sustainable Food Packaging Based on Polymer Nanomaterials, Consiglio Nazionale delle Ricerche - CNR - Piazzale Aldo Moro 7 - 00185 Roma-Italy. (Poster Presentation)

Óscar L. Ramos, R. N. P., **Artur J. Martins**, F. Xavier Malcata, António A. Vicente (2013, 7-12 November). *Development and Characterization of Bioactive Beta-Lactoglobulin in nano-hydrogels for food applications*. Paper presented at the Polymar 2013 - 1st International Conference in Polymers with special Focus in Early Stage Researchers, Barcelona, Spain. (Oral Presentation)

**Artur J. Martins**, A. I. B., António A. Vicente, Susana Pinto, J. A. Lopes da Silva, C. Rocha. (2013, 7- 12 November). *Diffusional and Surface Properties of Electrospun Poly ( $\epsilon$ -caprolactone) Nanofibers with Trypsin Encapsulation*. Paper presented at the Polymar 2013 - 1st International Conference in Polymers with special Focus in Early Stage Researchers, Barcelona, Spain. (Oral Presentation)

Petr Stanovsky, M. C. R., **Artur Martins**, J. A. Teixeira (2010, 13-16 September). *Meniscus oscillation during bubble formation at the plate*. Paper presented at the 8th European Fluid Mechanics Conference — Euromech, Bad Reichenhall, Germany. (Oral Presentation)



**Peer Review work:**

Food Biophysics; Journal of Functional Foods; Food Hydrocolloids; RCS Advances; Food Chemistry; Foods; European Journal of Lipid Science and Technology; Grasas & Aceites; Journal of the American Oil Chemists' Society; Food Science and Technology International; Nutrients; Antioxidants; Journal of Food Science; Food Structure; Journal of the Science of Food and Agriculture; Frontiers in Sustainable Food Systems; Journal of Agricultural and Food Chemistry; Food Research International.