
FEDERICO CASANOVA

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Technical University of Denmark
Food Production Engineering Research Group
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EDUCATION:

- **2015 - 2017 Ph.D. (Food Science, Food chemistry)**
Topic: «Colloidal stability of cross-linked casein micelles and their potential use as nanocarrier for cyanidin-3-O-glucoside»
Universidade Federal de Viçosa (Viçosa, Brazil)
- **2016 Ph.D. visiting student**
Topic: «Interactions between casein micelles cross-linked with transglutaminase and cyanidin-3-O-glucoside»
INRA-STLO (Rennes, France)
- **2009 – 2010 MSc (Food Innovation)**
Agrocampus Ouest (Rennes, France)
Topic: «Interfacial properties of dephosphorylated ovalbumin»
INRA-STLO (Rennes, France)
- **2006 – 2007 MSc (Biochemistry) Erasmus program**
Universitat Jaume I (Castellon de la Plana, Spain)
Topic: «Analysis of milk metabolites by GC-MS»
INRA-PL (Saint Gilles, France) *Leonardo da Vinci Scholarship*
- **2003 – 2006 BSc Licence (Food science and technology)**
Università Cattolica del Sacro Cuore (Piacenza, Italy)
Topic: «Shelf-life of bakery product»
I.T.A. (Alessandria, Italy)

PROFESSIONAL EXPERIENCE:

- **2018 – Currently**
Post-Doctoral researcher
«New techno-functionalities of gelatin from skin fish for applications in micro-encapsulation, hydrogel and biofilm».
Technical University of Denmark (Lyngby, Denmark)
- **2017 – 2018**
Junior project leader / Post-Doctoral researcher
«Interaction between protein and starch in food solid foam: from bulk to extruded product»
Nestlé and Supagro Montpellier (Montpellier, France)

- **2015 Professor at Alliance Française (Level A2.1)**
Alliance française Viçosa (Viçosa, Brazil)
- **2010 – 2014 Engineer**
«Stability of foam in the presence of additives and gold nanoparticles»
Institut de Physique de Rennes CNRS – UMR 6251 (Rennes, France)
- **2009 Food chemistry analyst**
«HPLC analysis in sugar chocolate»
NEOTRON s. p. a. (Modena, Italy)
- **2008 Assistant engineer**
British – Italian partnership program for young researchers
«Recovery of gallic acid with colloidal gas aphrons»
University of Reading (Reading, England)
- **2007 – 2008 Food chemistry laboratory technician**
Istituto Statale Giuseppe Marconi (Alessandria, Italy)

PEER-REVIEWED JOURNAL PUBLICATIONS :

Nogueira M. H., Tavares G., Silva N. F. N., **Casanova F.**, Gaucheron F., Perrone I. T., Teixeira A. V. N. C., de Carvalho A. F. (2019). *“Physico-chemical stability of casein micelles cross-linked by transglutaminase as a function of acidic pH”*.

Food structure, Volume 19, Pages, 100-103.

Nogueira N. S., **Casanova F.**, Gaucheron F., Teixeira, A. V. N. C., da Silva G. M., Minim L. A., de Carvalho A. F. (2018). *“Combined effect of transglutaminase and sodium citrate on the microstructure and rheological properties of acid milk gel”*.

Food Hydrocolloids, Volume 82, Pages 304-311.

Casanova F., Chapeau, A.-L., Hamon, P., de Carvalho, A. F., Croguennec, T., Bouhallab, S. (2018).

“pH- and ionic strength-dependent interaction between cyanidin-3-O-glucoside and sodium caseinate”.

Food Chemistry, Volume 267, Pages 52-59.

Casanova F., Naaman F. Nogueira Silva, N. F., Gaucheron, F., Nogueira M. H., Teixeira, A. V. N. C., Perrone, I. T., Pinheiro Alves, M., Cardoso Fidelis, P., de Carvalho, A. F. (2017).

“Stability of casein micelles cross-linked with genipin: a physicochemical study as a function of pH”.

International Dairy Journal, Volume 68, Pages 70–74.

Emile J., Emile O., Ghoufi A., Moréac A., **Casanova F.**, Ding M., Houizot P. (2013).

“Giant optical activity of sugar in thin soap films”.

Journal of Colloid and Interface Science, Volume 408, Pages 113-116.

Emile J., Tabuteau H., **Casanova F.**, Emile O. (2013).

“Bubble-wall friction in a circular tube”.

Soft Matter, Volume 9, Page 4142.

Emile J., Emile O., **Casanova F.** (2013).

“Light guiding properties of soap films”.

Europhysics Letters, Volume 101, Page 34005.

Emile J., Werts M. H. V., Artzner F., **Casanova F.**, Emile O., Navarro J. R. G., Meneau F. (2012).
"Foam films in the presence of functionalized gold nanoparticle".
Journal of Colloid and Interface Science, Volume 383, Pages 124-129.

Emile J., **Casanova F.**, Loas G., Emile, O. (2012).
"Swelling of a foam lamella in a confined channel".
Soft Matter, Volume 8, Page 3223.

Emile J., **Casanova F.**, Tabuteau H., Emile, O. (2012).
"Profile of the liquid film wetting a channel".
Applied Physics Letters, Volume 100, Issue 7.

Spigno G., Dermiki M., Pastori C., **Casanova F.**, Jauregi, P. (2010).
"Recovery of gallic acid with colloidal gas aphrons generated from a cationic surfactant".
Separation and Purification Technology, Volume 71, Pages 56–62.

PUBLICATIONS SUBMITTED OR UNDER PREPARATION:

Nogueira N. Silva, **Casanova F.**, Pinto M. S., de Carvalho A. F., Gaucheron F.
"Review: Casein micelles - from monomers to the supramolecular structure".
Accepted in: Brazilian Journal of Food Technology, as review paper.

Luis Gustavo Lima Nascimento, **Federico Casanova**, Naaman Francisco Nogueira Silva, Alvaro Vianna Novaes de Carvalho Teixeira, Antonio Fernandes de Carvalho.
"Casein based hydrogel: A Mini-review".
Sent to: Food Bioscience, as mini-review.

Atalita Devaud, **Federico Casanova**, Naaman F. Nogueira Silva, Evandro Martins, Guilherme M. Tavares, Arnaud Saint-Jalmes, Álvaro Vianna Novaes de Carvalho Teixeira, Antônio Fernandes de Carvalho
"Caseins as Foam Stabilizers: Key Factors and Alternatives to Improving Their Potential"
Sent to: Comprehensive Reviews in Food Science and Food Safety, as review paper.

Nogueira M. H., Tavares G. M., **Casanova F.**, Silva C. R. J., Rocha J. C. G, Stringheta P. C., Perrone I. T., Gaucheron F., de Carvalho A. F.
"Crosslinked casein micelle as encapsulation device of jaboticaba (Myrciaria jaboticaba) polyphenols by spray drying".
Sent to: Powder Technology.

Luis Gustavo Lima Nascimento, **Federico Casanova**, Naaman Francisco Nogueira Silva, Alvaro Vianna Novaes de Carvalho Teixeira, Márcia Cristina Teixeira Ribeiro Vidigal, Paulo Cesar Stringheta Antonio Fernandes de Carvalho.
"Cross-linked casein micelle hydrogel as carrier for jaboticaba extract".
In preparation for a submission to: Food Hydrocolloids.

Casanova F., Silva N. F. N., de Carvalho A. F, Gaucheron F.
"Interactions between casein and interesting compound in nutrition and health: a review for the future".
In preparation for a submission to: Food Hydrocolloids, as review paper.

ABSTRACTS AND PROCEEDINGS OF MEETING PRESENTATIONS:

Büşra Gültekin Subaşı, **Federico Casanova**, Esra Çapanoğlu Güven, Mohammad Amin Mohammadifar Jessen «Effect of removing phenolic compounds on interfacial behavior of protein isolated from de-oiled sunflower cake». Poster, 8th International Symposium on Food Rheology and Structure - ISFRS 2019, Zürich, Switzerland June 17-20, 2019.

Federico Casanova, Mohammad Amin Mohammadifar and Flemming Jessen «Foaming and interfacial properties of gelatin from fish skin». Poster, 8th International Symposium on Food Rheology and Structure - ISFRS 2019, Zürich, Switzerland June 17-20, 2019.

Federico Casanova «Food Protein Functionality: technological and colloidal approach». Invited Talk at Università Cattolica del Sacro Cuore, Piacenza, Italy Mai 8, 2019.

Federico Casanova, Mohammad Amin Mohammadifar, Sara Kobbelgaard, Greta Jakobsen and Flemming Jessen «Foam based on fish skin collagen by-product: a colloidal approach». Poster, Seminar on ingredients from new biomasses, DTU, Denmark April 8, 2019.

Nascimento L. G. L., **Casanova F.**, Silva G. M., Carvalho A. F., Silva N. F. N. «Effect of transglutaminase and trisodium citrate on the structure of acid milk gels». Poster, VII Cytac 2018, Congreso Internacional ciencia y tecnologia de los alimentos, Cordoba, Argentina October 1 – 3, 2018.

F. Gaucheron, **F. Casanova**. «Casein Micelles as Nanovehicles of Interesting Molecules for Food and Pharmaceutical Applications: Some examples». Oral presentation, 5eme JSAA, Sousse, Tunisia April 10 -14, 2017.

M. C. T. R. Vidigal, L. A. Minim, I. C. O. Neves, **F. Casanova** and V. P. R. Minim. «Propriedades de espuma da mistura de β -lactoglobulina e carragena na presença de açúcar e poliól». Poster, IX Brazilian Meeting on Chemistry of Food and Beverages, São José do Rio Preto, SP, Brasil November 28 – December 2, 2016.

Casanova F., Croguennec T., Gaucheron F., Tavares G., Nogueira M. H., Nogueira Silva N., de Carvalho A. F., Bouhallab S. «Interaction between casein micelles cross-linked with transglutaminase and cyanidin-3-O-glucoside». Poster, 1st Food Chemistry Conference, Amsterdam, October 30 – November 1st 2016.

Casanova F. «Interactions between casein micelles cross-linked with transglutaminase and cyanidin-3-O-glucoside». Oral presentation, III Workshop Inovaleite, Viçosa, Brazil (M.G.), August 11, 2016.

Casanova F., Nogueira Silva N., Gaucheron F., Nogueira M. H., Alvaro V. N. C. Teixeira A. V. N. C., Pinhero Alves M., Cardoso P. F., De Carvalho A. «Stability of casein micelles cross-linked with genipin: a physicochemical study as a function of pH». Oral presentation, RBPGO, Nantes, France, June 23-24, 2016.

Casanova F. «MadMicelle, what a lovely PhD». Oral presentation, Doctorama, Rennes, France, May 16, 2016.

Casanova F. «Interaction between anthocyanins and casein micelles cross-linked with genipin». Oral presentation, II Workshop Inovaleite, Viçosa, Brazil (M.G.), December 4, 2015.

Nogueira M., **Casanova F.**, de Paula J. A., da Silva E. D., Perrone I. T. and de Carvalho A. F. «Labneh a base de proteínas do soro: desenvolvimento e avaliação físico-química». Poster, 30° Congresso Nacional Laticinos de Laticínios, Minas Lactea 2015, Juiz de Fora, Brazil (M.G.), July 14-16, 2015.

Casanova F., Fialho T. L., Raimundo C., Simeão M., da Silva Pinto M., de Carvalho A. F. «Performance of starters in yoghurt and milk based drinks: comparing study». Poster, 30° Congresso Nacional Laticinos de Laticínios, Minas Lactea 2015, Juiz de Fora, Brazil (M.G.), July 14-16, 2015.

Casanova F., Fialho T. L., Raimundo C., Simeão M., da Silva Pinto M., de Carvalho A. F. « Comparação de desempenho de fermentos laticos em iogurte e bebida lactea». Oral presentation, I Workshop Inovaleite, Viçosa, Brazil (M.G.), July 7, 2015.

Casanova F. «Foam film confined in a channel». Poster, Rennes, France, January 18, 2012.

Casanova F., Pezennec S., Beaufils S., Saint-Jalmes A., Lechevalier V. «Interfacial properties of dephosphorylated ovalbumin». Poster, RBPGO, Rennes, France, June 9-10, 2011.

RESEARCH GRANTS:

- CNPq, 2016 (Brazil – France). Amount: 13.560 EUR.
- British – Italian partnership program for young researchers, 2008 (Italy – U.K.)
- Leonardo da Vinci Scholarship, 2006-2007 (Italy - France). Amount: 5.000 EUR.
- Erasmus program, 2006 (Italy – Spain). Amount: 8.000 EUR.

BACHELOR THESIS CO-SUPERVISION:

Alberto Soliani

2019 Bachelor student at Università Cattolica del Sacro Cuore, Piacenza, Italy.

“Effect of ultrasound treatment on the structural, physical and foaming properties of gelatin from fish skin”

MASTER THESIS CO-SUPERVISION:

Laise Trindade

2018-2020 Master student at Federal University of Viçosa, Brazil.

“Foaming and physicochemical properties of casein micelles cross-linked by transglutaminase”

Kyllian Gooverts

2018 Master student at University of Montpellier, France.

“Mechanical properties of food extruded product based on cereal and vegetal proteins”

Luis Gustavo Lima Nascimento

2017-2019 Master student at Federal University of Viçosa, Brazil.

“Cross-linked casein micelles hydrogel as nanocarriers for anthocyanins from açai and jaboticaba fruits”

Atalita dos Santos Devaud

2017-2019 Master student at Federal University of Viçosa, Brazil.

“Foaming properties of casein micelles cross-linked with transglutaminase at neutral and acid pH”

Marcio Henrique Nogueira

2015-2017 Master student at Federal University of Viçosa, Brazil.

“Crosslinked casein micelles by transglutaminase: stability, drying and use as encapsulation device”

PhD CO-SUPERVISION

Luis Gustavo Lima Nascimento

2019-2022 PhD student at Federal University of Viçosa, Brazil.

“Responsive milk proteins hydrogel as nanocarriers for bioactive molecules”

MEMBER IN MASTER EVALUATION COMMISSION:

20.02.2019 Atalita dos Santos Devaud. *“Foaming properties of casein micelles cross-linked with transglutaminase at neutral and acid pH”*

20.02.2019 Luis Gustavo Lima Nascimento. *“Cross-linked casein micelles hydrogel as nanocarriers for anthocyanins from açai and jaboticaba fruits”*

TEACHING:

2015 Food microbiology, 6 months part-time, Federal University of Viçosa (Viçosa, Brazil)

2007 – 2008 Laboratory class on food chemistry, 10 months full time, Istituto Statale Giuseppe Marconi (Alessandria, Italy)

CONTACT REFERENCES:

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- Dr. Patrick Pibarot
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Expert scientist at Nestlé Lausanne
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- Professor Antonio Fernandes de Carvalho
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Professor at Universidade Federal de Viçosa, MG, Brazil.
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- Professor Thomas Croguennec
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- Dr. Frédéric Gaucheron
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Project Leader -Technology and Transformation- at CNIEL, Paris, France.
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