



Francesca Romana Lupi, Ph.D.

Researcher (RTD A), s.s.d. ING/IND-24 at the Department DIMES (UNICAL). Chemical Engineer and PhD, specialized in Rheology and Science of foods, homogeneous and heterogeneous materials.

Since 07/04/2017 Dr. Lupi acquired the National Scientific Habilitation as Associate Professor - 09/D2 - Systems, Methods and Technologies of Chemical and Process Engineering.

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Career

- 2010 – Ph.D. in "Environment, Health and Eco-sustainable processes" with a thesis entitled "Rheology of highly-concentrated-in-oil emulsions".
- From 2010 to present, she continues her academic career in the research group belonging to the Laboratory of Rheology and Food Engineering (DIMES Department).
- From 2010 to 2018 she was holder of non-continuous research fellowships related to the study of food emulsions for which prof. B. de Cindio was the supervisor
- She has been Scientific Referent for UNICAL of 3 Regional research projects and has participated in over 20 national research projects. She collaborated and still collaborates with international Research Institutes including ETH (Zurich, CH), the Universities of Huelva and Seville (Spain) and with national and international food companies.
- since 2011 she is researcher at the university Spin-off "R&D Cal s.r.l" partner of the company Reoli S.R.L. and she deposited two patents (one international) as co-inventor
- She has participated as a speaker at more than 20 national and international conferences
- Since 2018 she is a Researcher (RTD A) at DIMES (Unical)

Didactic experiences and research interests

- Since 08/10/2018 she has been a member of the Food Engineering Bachelor's Degree Council (DIMES, UNICAL) and holds the position of Head of the Commission of Teaching and Student Career Monitoring; she is reference teacher for the Bachelor's Degree.
- 09-12/09/2019 - teacher for the "School of Industrial Rheology 2019" - Training and refresher course for industrial researchers and technicians, Valeggio sul Mincio (VR) organized by the Italian association of Rheology SIR - title of the lesson " Risvolti applicativi nella reologia delle emulsioni" (Italian language)
- From 23/09/2019 to 21/12/2019 - from 04/03/2019 to 15/06/2019 – Professor in charge of the course of "Laboratory of Food Rheology", Bachelor's Degree in Food Engineering, Bachelor's Degree, DIMES, UNICAL.
- From 26/02/2019 to 12/06/2019 - from 04/03/2020 to 15/06/2020 – Teaching assistant of the course of "Thermodynamics", Bachelor's Degree in Environmental and Chemical Engineering, (DIATIC Department, UNICAL).
- From 23/09/2019 to 21/12/2019 - from 24/09/2018 to 19/01/2019 - from 25/09/2017 to 12/01/2018 - From 06/03/2017 to 23/09 / 2017 – Teaching assistant of the course "Technological Innovation in the Food Field" for Master's Degree in Management Engineering (Department DIMEG, UNICAL).
- From 01/10/2018 to 19/01/2019 and from 23/09/2019 to 21/12/2019 – Teaching assistant for the course of "Thermodynamics of food systems", Bachelor's Degree in Food Engineering, (DIMES Department, UNICAL).
- A.A. 2014-2015 – Teaching assistant of the course of "Chemistry" for Bachelor's Degree in Computer Engineers as Subject Expert, (DIMES Department, UNICAL).
- from A.A. 2010-2011 to A.A. 2013-2014 – Teaching assistant for the course of "Thermodynamics", Bachelor's Degree in Chemical Engineering, UNICAL.
- from A.A. 2010-2011 to A.A. 2013 - 2014 – Teaching assistant for the course of "Chemical reactors", Master's Degree in Chemical Engineering, UNICAL.
- 25-27/07/2018, 26-28/07/2017, 26-28/04/2016, 26-28/10/2015, 19-21/11/2014 - Teacher for the training course "Superior Technician for Chemical-Industrial Productions" organized by the "Istituto Tecnico Superiore per le Nuove Tecnologie della Vita", Bergamo (BG). Course title "Rheology of food systems"

Research lines: Rheology of homogeneous and heterogeneous complex systems, modeling and rheological characterization of hydrogels, organogels, bigels, structured and unstructured emulsions, engineering of food, pharmaceutical and biological systems. Microstructural analysis of complex materials (food, emulsions, bitumen) with optical microscopy and FT-IR techniques.

Publications in international journals and books and/or encyclopedias.


1. Lupi F.R., Franco G., Baldino N., Gabriele D., (2020). The effect of operating conditions on the physicochemical characteristics of whey proteins-based systems" *Rheologica Acta*, 59, 227–238
2. Lupi F.R., Puoci F., Bruno E., Baldino N., Marino R., Gabriele D., (2020). The effects of process conditions on rheological properties of functional citrus fibre suspensions, *Food and Bioproducts Processing* 121, 54–64

3. Shakeel A, Farooq U., Iqbal T., Yasina S., Lupi F.R., Gabriele D., (2019). Key characteristics and modelling of bigels systems: A review, *Materials Science and Engineering: C*, 97, 932-953
4. Lupi F.R., De Santo M.P., Ciuchi F., Baldino N., Gabriele D., (2018). The role of edible oils in low molecular weight organogels rheology and structure, *Food Research International*, 111, 399-407
5. Lupi F.R., Mancina V., Baldino N., Parisi O.I., Scrivano L., Gabriele D., (2018). Effect of the monostearate/monopalmitate ratio on oral release of active agents from monoacylglycerols organogels, *Food and Function*, 9, 3278–3290
6. Baldino N., Laitano F., Lupi F.R., Curcio S., Gabriele D. (2018). Effect of HPMC and CMC on rheological behavior at different temperatures of gluten-free bread formulations based on rice and buckwheat flours, *European Food Research and Technology*, 244, 1829–1842
7. Baldino N., Mileti O., Lupi F.R., Gabriele D., (2018). Rheological surface properties of commercial citrus pectins at different pH and concentration, *LWT*, 93, 124-130.
8. Shakeel A., Lupi F.R., Gabriele D., Baldino N., de Cindio B., (2018). Bigels: a unique class of materials for drug delivery applications, *Soft Materials*, 16, 77-98
9. Baldino N., Oliviero Rossi C., Lupi F.R., Gabriele D., (2017). Rheological and structural properties at high and low temperature of bitumen for warm recycling technology, *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, 532, 592-600
10. Lupi F.R., De Santo M.P., Ciuchi F. Baldino N., Gabriele D., (2017). A rheological modelling and microscopic analysis of bigels, *Rheologica Acta*, 56, 753–763
11. Lupi F.R., Shakeel A., Greco V., Baldino N. Calabrò V. Gabriele D., (2017). Organogelation of extra virgin olive oil with fatty alcohols, glyceryl stearate and their mixture, *LWT - Food Science and Technology* 77, 422-429
12. Lupi F.R., Greco V., Baldino N., de Cindio B., Fischer P., Gabriele D. (2016). The effects of intermolecular interactions on the physical properties of organogels in edible oils, *Journal of Colloid and Interface Science* 483, 154-164
13. Lupi F.R., Shakeel A., Greco V., Oliviero Rossi C., Baldino N., Gabriele D., (2016). A rheological and microstructural characterisation of bigels for cosmetic and pharmaceutical uses. *Materials Science & Engineering C*, 69, 358–365
14. Oliviero Rossi C., Caputo P., Baldino N., Lupi F.R., Miriello M., Angelico R., (2016). Effects of adhesion promoters on the contact angle of bitumen-aggregate interface, *International Journal of Adhesion and Adhesives* 70, 297-303
15. Baldino N., Gabriele D., Gentile L., Carnevale I., Lupi F.R., de Cindio B., De Luca M., (2016). Drying of sausages made from the meat of black and white pigs: numerical modelling and structural investigation, *Drying Technology*, 35, 724–735
16. Quintieri A.M., Filice E., Amelio D., Pasqua T., Lupi F.R., Scavello F., Cantafio P., Rocca C., Lauria A., Penna C., de Cindio B., Cerra M.C., Angelone T., (2016). The innovative “Spread Bio-Oil” prevents metabolic disorders and mediates pre-conditioning-like cardioprotection in rats, *Nutrition, Metabolism and Cardiovascular Diseases*, 26, 603-613
17. Lupi F. R., Gentile L., Gabriele D., Mazzulla S., Baldino N., de Cindio B., (2015). Olive oil and hyperthermal water bigels for cosmetic uses. *Journal of Colloid and Interface Science*, 459-70-78
18. Lupi F.R., Gabriele D., Seta L., Baldino N., de Cindio B., Marino R., (2015). Rheological investigation of pectin-based emulsion gels for pharmaceutical and cosmetic uses. *Rheologica Acta*, 54, 41-52
19. Lupi F.R., Gabriele D., Seta L., Baldino N., de Cindio B., (2014). Rheological design of stabilized meat sauces for industrial uses, *European Journal of Lipid Science and Technology*, 116, 1734–1744
20. Baldino N., Gabriele D., Lupi F.R., Seta L., Zinno R., (2014). Rheological behaviour of fresh cement pastes: Influence of synthetic zeolites, limestone and silica fume, *Cement and Concrete Research*, 63, 38-45
21. Seta L., Baldino N., Gabriele D., Lupi F.R., de Cindio B., (2014), Rheology and adsorption behaviour of β -casein and β -lactoglobulin mixed layers at the sunflower oil/water interface, *Colloids and Surfaces A: Physicochemical and Engineering Aspects* 441, 669-677

22. Baldino N., Gabriele D., Lupi F.R., de Cindio B. & Cicerelli L., (2014), Modelling of baking behaviour of semi-sweet short dough biscuits, *Innovative Food Science and Emerging Technologies*, 25, 40-52
23. Lupi F. R., Gabriele D., Baldino N., Mijovic P., Parisi O.I., Puoci F., (2013). Olive oil/policosanol organogels for nutraceutical and drug delivery purposes, *Food & Function*, 4, 1512-1520
24. Seta L., Baldino N., Gabriele D., Lupi F.R., de Cindio B., (2013)., The influence of carrageenan on interfacial properties and short term stability of milk whey proteins emulsions, *Food Hydrocolloids*, 32, 373-382
25. Baldino N., Gabriele D., Lupi F.R., Oliviero Rossi C., Caputo P., Falvo T., (2013). Rheological effects on bitumen of polyphosphoric acid (PPA) addition, *Construction & Building Materials*, 40, 397-404
26. Lupi F. R., Gabriele D., Greco V., Baldino N., Seta L., de Cindio B., (2013). A rheological characterisation of an olive oil/fatty alcohols organogel, *Food Research International*, 51, 510-517
27. Lupi F. R., Gabriele D., Facciolo D., Baldino N., Seta L., de Cindio B., (2012). Effect of organogelator and fat source onto rheological properties of olive oil based organogels, *Food Research International*, 46, 177–184
28. Lupi F. R., Gabriele D., Baldino N., Seta L., de Cindio B., De Rose C., (2012). Stabilisation of meat suspensions by organogelation: a rheological approach, *European Journal of Lipid Science and Technology*, 114, 1381-1389
29. Baldino N., Gabriele D., Oliviero Rossi C., Seta L., Lupi F.R., Caputo P., (2012). Low temperature rheology of polyphosphoric acid (PPA) added bitumen, *Construction and Building Materials* 36, 592–596
30. Seta L., Baldino N., Gabriele D., Lupi F. R., de Cindio B., (2012). The effect of surfactant type on the rheology of ovalbumin layers at the air/water and oil/water interfaces, *Food Hydrocolloids*, 29, 247-257
31. Migliori M., Gabriele D., Lupi F. R., de Cindio B., (2012). Effect Of Waxes Addition On Rheological Properties Of O/W Concentrated Model Emulsions, *Energy Sources, Part A: Recovery, Utilization, and Environmental Effects*, 34, 851-857
32. Lupi F. R., Gabriele D., de Cindio B., (2012). Effect of shear rate on crystallisation phenomena in olive oil based organogels, *Food and Bioprocess Technology*, 5, 2880-2888
33. Lupi F. R., Gabriele D., de Cindio B., Sánchez M. C., Gallegos C., (2011). A Rheological Analysis Of Structured Water-In-Olive Oil Emulsions, *Journal of Food Engineering* 107, 296–303
34. Gabriele D., Migliori M., Lupi F. R., de Cindio B., (2011). Rheological study of O/W concentrated model emulsions for heavy crude oil transportation, *Energy Sources, Part A: Recovery, Utilization, and Environmental Effects*, 33, 72-79
35. Migliori M., Gabriele D., Baldino N., Lupi F. R., de Cindio B., (2009). Rheological Properties of Batter Dough: Effect of Egg Level, *Journal of Food Process Engineering*, 34, 1266-1281
36. Baldino N., Lupi F.R., Gabriele D., de Cindio B., (2020), Use of Mathematical Modelling of Dough Biscuits Baking Behaviour. In: Seveda S., Singh A., *Mathematical and Statistical Applications in Food Engineering*, CRC Press, Taylor and Francis Group (Boca Raton, USA)
37. de Cindio B., Baldino N., Gabriele D., Lupi F. R., (2016), Rheological Properties of Food Materials. In: Caballero B., Finglas, P.M. Toldrá F., *Encyclopedia of food and health*. p. 612-617, ISBN: 978-0-12-384953-3, doi: <http://dx.doi.org/10.1016/B978-0-12-384947-2.00592-4>, Elsevier Inc. (New York, Stato di New York, USA)
38. de Cindio B., Gabriele D., Lupi F. R. (2016). Pectin: Properties Determination and Uses. In: Caballero B, Finglas PM, Toldrá F. *Encyclopedia of Food and Health*. p. 294-300, Academic Press Inc Elsevier Science ISBN: 978-0-12-384953-3, doi: <http://dx.doi.org/10.1016/B978-0-12-384947-2.00531-6>, Elsevier Inc. (Cambridge, Massachussettes, USA)
39. de Cindio B., Lupi F. R., (2011), Part 2, Chap. 15 – “Saturated fat reduction in pastry” In: Talbot G., “Reducing saturated fats in foods”, Woodhead Publishing Limited (Great Abington, Cambridge, UK), pp. 301-317, ISBN: 978-1-84569-740-2

Link IRIS catalogue: <https://iris.unical.it/simple-search?query=Lupi#.XoNttlgzZPY>

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