

## Curriculum vitae Elena Vittadini

### PRESENT POSITION:

Full Professor Food Science and Technology (07/F1 – AGR15), School of Biosciences and Veterinary Medicine (University of Camerino, Italy)

### EDUCATION:

- **Ph.D. in Food Science**, University of Massachusetts at Amherst. September 1998. Doctoral Thesis: "**Water mobility in heterogeneous systems as studied by <sup>1</sup>H, <sup>2</sup>H and <sup>17</sup>O NMR**".
- **Master in Food Science and Technology (Laurea)**, University of Milano, Italy; March 1993, (Magna cum Laude). Master Thesis: "**Effects of natural and modified polymers on starch retrogradation**".

### RESEARCH AND ACADEMIC CAREER

- Nov 2005–Aug 2018: **Associate Professor in Food Science and Technology**, University of Parma
- Feb–May 2017: **Visiting Research Scholar**, Dep Food Science Tech, Ohio State University, USA.
- Dec 2002–Oct 2005: **Contract Professor**, University of Parma, Parma, Italy. Hired within the “Brain Drain Program” of the Italian Ministry of University and Research (D.M. n.96 del 23.04.2001).
- Feb–Dec 2002: **Visiting Research Scholar**, Dep Food Science Tech, Ohio State University, USA.
- Jan 2001–Jan 2002: **Senior research scientist**, OPTA Food Ingredients, Bedford, MA, USA
- Feb 2000–Jan 2001: **Research Assistant Professor / Post-doctoral Aerospace Fellow**, Conrad N. Hilton College of Hotel and Restaurant Management, University Houston / NASA JSC, TX, USA.
- May 1998–Jan 2000: **Research Scientist**, Cultor Food Science, Ardsley NY, USA.

### RESEARCH FOCUS

The research experience of Prof. Vittadini has focused on the evaluation of the effect of composition and processing (both traditional and innovative) on the quality and stability of food products (mainly cereal based) both commercial or tailor made to meet the nutritional, sensory and convenience needs of specific groups of consumers. These products have been developed with great attention to their nutritional properties using ingredients with proven effects on the health and well-being of the target consumer. The evaluation of food products was carried out with a multi-analytical approach to describe their properties with attributes that develop on a large dimensional and time scale with the awareness that their macroscopic properties and functionality are governed by the organization and dynamics at the mesoscopic and molecular level.

Research experience has included also industrial (Cultor Food Science, Opta Food Ingredients) and governative (NASA) settings leading to a good understanding of the needs of food industry research and allowing close interaction with Italian and foreign industrial realities.

### RESEARCH SUPPORT

**International and National Competitive Calls:** “Soil and legumes of the Sibillini for high quality pasta” – MIUR, “Research and innovation 2015-2017” Doctoral Projects for Internal/marginalized areas, 2021-2024; “Soft wheat from field - to human: how different grinding processes modulate the technological, nutritional and biological properties of flours and derived products”, POR Marche FSE 2014/2020, Innovative Doctoral Project Grants, 2020-2023; “Creation of a sustainable model of best practices for the enhancement of ancient varieties of soft wheat in the Emilia Romagna Region” (BIOVANT), “PSR 2014-2020 Regione Emilia Romagna; “Replacement of saturated fats, palm oil and other tropical fats in foods (industrial bakery, dough and gastronomy products) with a new system composed of unsaturated oils and functional natural fibers”, HiFood, Emilia Romagna Region Olio di PaRma, POR-FESR 2014-2020; “Water status characterization in bread and pasta products” within “New technological approaches to increase shelf-life and service in Mediterranean style food

products". Industria 2015, Bando Nuove Tecnologie per il Made in Italy; Ministry of Economic Development, MI01-00093; "Development of functional food products for space use", European Commission, MIRC-CT-2004-006676. 2005-2007; "Food products for space use" "Rientro dei Cervelli Program", D.M. n.96 del 23.04.2001, MIUR 2002-2005. **Research Projects Funded by Private Enterprises:** Characterization of legume flours and their applications in food (2022-2023); Characterization of pasta with legumes: effect of the formulation on the texture, sensory acceptability and digestibility of starch in gluten-free pasta (2019-2020); Characterization of MELTEC, a plant fiber syrup (2018-2019); Evaluation of the effect of different storage temperatures on the structure of anhydrous confectionery products, thorough the examination of SEM electronic pictures (2014-2017).

Prof. Vittadini authored 115 peer-reviewed articles listed in Scopus (H-index 31 June 24<sup>th</sup>, 2022, ORCID ID 0000/0002/5172-8515)

### **Publications in the last 5 years**

- Carcelli, A., Albertini, A., Vittadini, E., Carini, E., A fibre syrup for the sugar reduction in fruit filling for bakery application (2022) International Journal of Gastronomy and Food Science, 28, art. no. 100545, .
- Kemski, M.M., Cottonaro, A., Vittadini, E., Vodovotz, Y., Development of Gluten-Free Muffins made from Breadfruit and Unripe Plantain Flours (2022) International Journal of Food Science and Technology, 57 (5), pp. 2980-2991.
- Ljubičić, M., Sarić, M.M., Klarin, I., Rumbak, I., Barić, I.C., Ranilović, J., EL-Kenawy, A., Papageorgiou, M., Vittadini, E., Bizjak, M.Č., Guiné, R., Motivation for health behaviour: A predictor of adherence to balanced and healthy food across different coastal Mediterranean countries (2022) Journal of Functional Foods, 91, art. no. 105018, .
- Boukid, F., Klerks, M., Pellegrini, N., Fogliano, V., Sanchez-Siles, L., Roman, S., Vittadini, E., Current and emerging trends in cereal snack bars: implications for new product development (2022) International Journal of Food Sciences and Nutrition, 73 (5), pp. 610-629.
- Suo, X., Dall'Asta, M., Giuberti, G., Minucciani, M., Wang, Z., Vittadini, E., The effect of chickpea flour and its addition levels on quality and in vitro starch digestibility of corn-rice-based gluten-free pasta (2022) International Journal of Food Sciences and Nutrition, 73 (5), pp. 600-609.
- Martinho, V.J.P.D., Bartkiene, E., Djekic, I., Tarcea, M., Barić, I.C., Černelič-Bizjak, M., Szűcs, V., Sarcona, A., El-Kenawy, A., Ferreira, V., Klava, D., Korzeniowska, M., Vittadini, E., Leal, M., Bolhuis, D., Papageorgiou, M., Guiné, R.P.F., Determinants of economic motivations for food choice: insights for the understanding of consumer behaviour (2022) International Journal of Food Sciences and Nutrition, 73 (1), pp. 127-139.
- Suo, X., Mosca, A.C., Pellegrini, N., Vittadini, E., Effect of pasta shape and gluten on pasta cooking quality and structural breakdown during mastication (2021) Food and Function, 12 (22), pp. 11577-11585.
- Federici, E., Gentilucci, V., Bernini, V., Vittadini, E., Pellegrini, N. Ready to eat shelf-stable brown rice in pouches: effect of moisture content on product's quality and stability (2021) European Food Research and Technology, 247 (11), pp. 2677-2685.
- Boukid, F., Carini, E., Curti, E., Diantom, A., Corte, R., Vittadini, E. Can a structured emulsion (fat in water-fibre system) substitute saturated fat in cookies without hampering their quality? (2021) International Journal of Food Science and Technology, 56 (10), pp. 5071-5079.
- Carcelli, A., Albertini, A., Vittadini, E., Carini, E., Strawberry ripple sauce: A semi-solid fibre syrup to reduce sugar content (2021) International Journal of Gastronomy and Food Science, 25, art. no. 100411, .

- Carcelli, A., Suo, X., Boukid, F., Carini, E., Vittadini, E., Semi-solid fibre syrup for sugar reduction in cookies (2021) *International Journal of Food Science and Technology*, 56 (10), pp. 5080-5088.
- Boukid, F., Curti, E., Diantom, A., Carini, E., Vittadini, E., A multilevel investigation supported by multivariate analysis for tomato product formulation (2021) *European Food Research and Technology*, 247 (9), pp. 2345-2354.
- Wongprawmas, R., Mora, C., Pellegrini, N., Guiné, R.P.F., Carini, E., Sogari, G., Vittadini, E., Food choice determinants and perceptions of a healthy diet among Italian consumers (2021) *Foods*, 10 (2), art. no. 318, .
- Marchini, M., Carini, E., Cataldi, N., Boukid, F., Blandino, M., Ganino, T., Vittadini, E., Pellegrini, N., The use of red lentil flour in bakery products: How do particle size and substitution level affect rheological properties of wheat bread dough? (2021) *LWT*, 136, art. no. 110299, .
- Guiné Raquel, P.F., Duarte, J., Ferrão, A.C., Ferreira, M., Correia, P., Cardoso, A.P., Bartkiene, E., Szucs, V., Nemes, L., Ljubičić, M., Černelič-Bizjak, M., Isoldi, K., Kenawy, A.E., Ferreira, V., Straumite, E., Korzeniowska, M., Vittadini, E., Leal, M., Frez-Muñoz, L., Papageorgiou, M., Djekić, I., The eating motivations scale (EATMOT): Development and validation by means of confirmatory factor analysis (CFA) and structural equation modelling (SEM) [Lestvica motivov prehranjevanja (EATMOT): Razvoj in validacija instrumenta s konfirmatorno faktorsko analizo (CFA) in modeliranjem strukturnih enačb (SEM)] (2020) *Zdravstveno Varstvo*, 60 (1), pp. 4-9.
- Carcelli, A., Crisafulli, G., Carini, E., Vittadini, E., Can a physically modified corn flour be used as fat replacer in a mayonnaise? (2020) *European Food Research and Technology*, 246 (12), pp. 2493-2503.
- Boukid, F., Diantom, A., Corte, R., Curti, E., Carini, E., Vittadini, E., Structured fat–water–fiber systems as fat substitutes in shortbread formulation: modulation of dough characteristics following a multiscale approach (2020) *European Food Research and Technology*, 246 (11), pp. 2249-2257.
- Guiné, R., Ferreira, M., Correia, P., Leal, M., Ferreira, V., Rumbak, I., EL-Kenawy, A., Papageorgiou, M., Szucs, V., Vittadini, E., Klava, D., Bartkiene, E., Muñoz, L., Korzeniowska, M., Tarcea, M., Djekić, I., Bizjak, M., Isoldi, K., FOOD CHOICES AS INFLUENCED BY ENVIRONMENTAL CONCERNS: STUDY INVOLVING PARTICIPANTS FROM 16 COUNTRIES (2020) *Journal of Security and Sustainability Issues*, 10 (1), pp. 61-71.
- Carcelli, A., Masuelli, E., Diantom, A., Vittadini, E., Carini, E., Probing the functionality of physically modified corn flour as clean label thickening agent with a multiscale characterization (2020) *Foods*, 9 (8), art. no. 9081105, .
- Guiné, R.P.F., Ferrão, A.C., Ferreira, M., Correia, P., Mendes, M., Bartkiene, E., Szűcs, V., Tarcea, M., Sarić, M.M., Černelič-Bizjak, M., Isoldi, K., EL-Kenawy, A., Ferreira, V., Klava, D., Korzeniowska, M., Vittadini, E., Leal, M., Frez-Muñoz, L., Papageorgiou, M., Djekić, I., Influence of sociodemographic factors on eating motivations–modelling through artificial neural networks (ANN), (2020) *International Journal of Food Sciences and Nutrition*, 71 (5), pp. 614-627.
- Guina, R.P.F., Bartkiene, E., Ucs, V.S., Tarcea, M., Ljubičić, M., Černelič-Bizjak, M., Isoldi, K., El-Kenawy, A., Ferreira, V., Straumite, E., Korzeniowska, M., Vittadini, E., Leal, M., Frez-Muñoz, L., Papageorgiou, M., Djekić, I., Ferreira, M., Correia, P., Cardoso, A.P., Duarte, J. Study about Food Choice Determinants According to Six Types of Conditioning Motivations in a Sample of 11,960 Participants (2020) *Foods*, 9 (7), art. no. 888, .
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- Pellegrini, N., Vittadini, E., Fogliano, V., Designing food structure to slow down digestion in starch-rich products (2020) *Current Opinion in Food Science*, 32, pp. 50-57.

- Diantom, A., Boukid, F., Carini, E., Curti, E., Vittadini, E., Can potato fiber efficiently substitute xanthan gum in modulating chemical properties of tomato products? (2020) *Food Hydrocolloids*, 101, art. no. 105508, .
- Boukid, F., Gentilucci, V., Vittadini, E., De Montis, A., Rosta, R., Bosi, S., Dinelli, G., Carini, E., Rediscovering bread quality of “old” Italian wheat (*Triticum aestivum* L. ssp. *aestivum*.) through an integrated approach: Physicochemical evaluation and consumers’ perception (2020) *LWT*, 122, art. no. 109043, .
- Guiné, R.P.F., Correia, P., Leal, M., Rumbak, I., Barić, I.C., Komes, D., Satalić, Z., Sarić, M.M., Tarcea, M., Fazakas, Z., Jovanoska, D., Vanevski, D., Vittadini, E., Pellegrini, N., Szucs, V., Harangozó, J., El-Kenawy, A., El-Shenawy, O., Yalçın, E., Kösemeci, C., Klava, D., Straumite, E., Ferreira, M., Florença, S.G., Cluster analysis to the factors related to information about food fibers: A multinational study (2020) *Open Agriculture*, 5 (1), pp. 593-606.
- Guiné, R., Ferrão, A.C., Ferreira, M., Correia, P., Cardoso, A.P., Duarte, J., Rumbak, I., Shehata, A.-M., Vittadini, E., Papageorgiou, M., The motivations that define eating patterns in some Mediterranean countries (2019) *Nutrition and Food Science*, 49 (6), pp. 1126-1141.
- Boukid, F., Vittadini, E., Lusuardi, F., Ganino, T., Carini, E., Morreale, F., Pellegrini, N., Does cell wall integrity in legumes flours modulate physicochemical quality and in vitro starch hydrolysis of gluten-free bread? (2019) *Journal of Functional Foods*, 59, pp. 110-118.
- Boukid, F., Zannini, E., Carini, E., Vittadini, E. Pulses for bread fortification: A necessity or a choice? (2019) *Trends in Food Science and Technology*, 88, pp. 416-428.
- Boukid, F., Carini, E., Curti, E., Pizzigalli, E., Vittadini, E., Bread staling: understanding the effects of transglutaminase and vital gluten supplementation on crumb moisture and texture using multivariate analysis (2019) *European Food Research and Technology*, 245 (6), pp. 1337-1345.
- Littardi, P., Diantom, A., Carini, E., Curti, E., Boukid, F., Vodovotz, Y., Vittadini, E., A multi-scale characterisation of the durum wheat pasta cooking process (2019) *International Journal of Food Science and Technology*, 54 (5), pp. 1713-1719.
- Diantom, A., Curti, E., Carini, E., Boukid, F., Mattarozzi, M., Vodovotz, Y., Careri, M., Vittadini, E., A multi-scale approach for pasta quality features assessment (2019) *LWT*, 101, pp. 285-292.
- Morreale, F., Boukid, F., Carini, E., Federici, E., Vittadini, E., Pellegrini, N., An overview of the Italian market for 2015: cooking quality and nutritional value of gluten-free pasta (2019) *International Journal of Food Science and Technology*, 54 (3), pp. 780-786.
- Boukid, F., Abbattangelo, S., Carini, E., Marseglia, A., Caligiani, A., Vittadini, E., Geographical origin discrimination of Pistachio (*Pistacia vera* L.) through combined analysis of physical and chemical features (2019) *European Food Research and Technology*, 245 (1), pp. 143-150.
- Boukid, F., Vittadini, E., Prandi, B., Mattarozzi, M., Marchini, M., Sforza, S., Sayar, R., Seo, Y.W., Yacoubi, I., Mejri, M., Insights into a century of breeding of durum wheat in Tunisia: The properties of flours and starches isolated from landraces, old and modern genotypes (2018) *LWT*, 97, pp. 743-751.
- Boukid, F., Prandi, B., Vittadini, E., Francia, E., Sforza, S., Tracking celiac disease-triggering peptides and whole wheat flour quality as function of germination kinetics (2018) *Food Research International*, 112, pp. 345-352.
- Curti, E., Federici, E., Diantom, A., Carini, E., Pizzigalli, E., Wu Symon, V., Pellegrini, N., Vittadini, E., Structured emulsions as butter substitutes: effects on physicochemical and sensory attributes of shortbread cookies (2018) *Journal of the Science of Food and Agriculture*, 98 (10), pp. 3836-3842.

- Boukid, F., Folloni, S., Ranieri, R., Vittadini, E. A compendium of wheat germ: Separation, stabilization and food applications (2018) *Trends in Food Science and Technology*, 78, pp. 120-133.
- Boukid, F., Carini, E., Curti, E., Bardini, G., Pizzigalli, E., Vittadini, E., Effectiveness of vital gluten and transglutaminase in the improvement of physico-chemical properties of fresh bread (2018) *LWT*, 92, pp. 465-470.
- Bardini, G., Boukid, F., Carini, E., Curti, E., Pizzigalli, E., Vittadini, E., Enhancing dough-making rheological performance of wheat flour by transglutaminase and vital gluten supplementation (2018) *LWT*, 91, pp. 467-476.
- Serventi, L., Vittadini, E., Vodovotz, Y., Effect of chickpea protein concentrate on the loaf quality of composite soy-wheat bread (2018) *LWT*, 89, pp. 400-402.
- Boukid, F., Folloni, S., Sforza, S., Vittadini, E., Prandi, B. Current Trends in Ancient Grains-Based Foodstuffs: Insights into Nutritional Aspects and Technological Applications (2018) *Comprehensive Reviews in Food Science and Food Safety*, 17 (1), pp. 123-136.
- Curti, E., Carini, E., Cobo, M.F., Bocher, T., Vittadini, E. The use of two-dimensional NMR relaxometry in bread staling: a valuable tool? (2017) *Food Chemistry*, 237, pp. 766-772.
- Diantom, A., Curti, E., Carini, E., Vittadini, E., Effect of added ingredients on water status and physico-chemical properties of tomato sauce (2017) *Food Chemistry*, 236, pp. 101-108.
- Curti, E., Carini, E., Vittadini, E., Staling and water dynamics in high-gluten bread (2017) *European Food Research and Technology*, 243 (7), pp. 1173-1182.
- Carini, E., Curti, E., Fattori, F., Paciulli, M., Vittadini, E. Staling of gluten-free breads: physico-chemical properties and <sup>1</sup>H NMR mobility (2017) *European Food Research and Technology*, 243 (5), pp. 867-877.
- Guiné, R., Duarte, J., Ferreira, M., Correia, P., Leal, M., Rumbak, I., Baric, I., Komes, D., Satalic, Z., Saric, M.M., Tarcea, M., Fazakas, Z., Jovanoska, D., Vanevski, D., Vittadini, E., Pellegrini, N., Szucs, V., Harangozó, J., El-Kenawy, A., El-Shenawy, O., Yalçın, E., Kösemeci, C., Klava, D., Straumite, E., Benefits of dietary fibre to human health: study from a multi-country platform (2017) *Nutrition and Food Science*, 47 (5), pp. 688-699.