

# CURRICULUM VITAE

**Surname:** RAPHAELIDES

**Name:** STYLIANOS

**Nationality:** Greek

**Present position:** Professor Emeritus (active) of Food Processing and Food Packaging

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## **Education:**

- BSc in Chemistry, first class (8,53/10), Aristotle University of Thessaloniki-Greece
- MSc in Food Process Engineering, The University of Reading- G. Britain
- PhD in Food Science, Strathclyde University-G. Britain

## **Professional experience:**

- 1975. Assistant factory chemist at a fruit and vegetable cannery of Lockwoods Foods Ltd, UK
- 1978-79. Factory Chemist at a Snack Food Factory of Tasty Foods Ltd, Athens-Greece
- 1979-1983. Factory Manager at a tomato processing, canning and freezing of fruits and vegetables factory of the Federation of Agricultural Cooperatives of Thessaloniki, Thessaloniki-Greece
- 1987- 2018. Professor of Food Processing and Food packaging, Department of Food Technology, ATEI of Thessaloniki, Thessaloniki-Greece.
- 2018- . Professor Emeritus (active)
- Visiting professor at the Institut Supérieur d' Agriculture (ISA), Université Catholique de Lille, France (35 hour taught course on Food Processing to the 4<sup>th</sup> year students, February-August 1993).
- Consultant to the Greek Food Industry on Quality Assurance and Food Safety issues. Installation and implementation of quality management systems such as

- GMP, HACCP etc. in snack foods factories, fruit canneries, fish processing plants etc
- Consultant in supervising the design of processing plant layouts and the construction of plants for the production of commodities such as frozen foods, cured and smoked fish, fruit juices, dairies etc.
  - Participant in an ADAPT project funded by European Union, concerning the employment in SMEs. The program was run jointly by the Municipality authorities of Thessaloniki (Municipal Centre for Vocational Training), the Thessaloniki Chamber of Commerce and Industry and partners from Britain, Ireland, Germany and France (1996-1998)
  - Participant in a project funded by the Greek Ministry of Industry which deals with technology know-how transfer to the Greek fish processing companies. The aim is to update and upgrade their processing procedures to become more competitive in the world market from the point of view of quality, productivity and costs (1998 - 1999).
  - Participant in a project funded by the European Program PHARE, as project manager. The project titled “Food Control- Albania”, lasted 6 months (February - September 2001). The end user of the project was the Albanian Ministry of Agriculture and Food. The aim of the project was to evaluate the existing situation of the Albanian Food Industry as well as the state food control laboratories of Albania in terms of Food Safety measures.
  - Expert and Instructor in a project funded by the European Program PHARE, concerning the training of Food Safety Inspectors of the Czech Ministry of Agriculture and Food on issues such as GMP/GHP and HACCP food safety systems (Project: ‘Strengthening Food Safety Policy in the Czech Republic’ (code no CZ2002/IB/AG/01, 2003-2004)).
  - Scientific director of a Master’s Degree two year course run by the Department of Food Technology, Alexander TEI of Thessaloniki titled “ Quality Management and Production Organization Systems for the Food Industry” (2009-2017).

**Research activities :**

- Scientific supervisor and coordinator of a project funded by the Greek Ministry of Industry, Research and Technology and the Greek tomato processing industry on the evaluation of agronomic and technological characteristics of new tomato varieties and hybrids (1987-1989).
- Scientific supervisor of a project concerning the quality evaluation of whole frozen kiwi fruit which have, prior to freezing, been osmotically dried using various syrups. The project was funded by an agricultural cooperative and the Greek Ministry of Education(1993-1996).
- Scientific supervisor of a project concerning the extrusion cooking of starch systems, funded by the Research Committee of ATEI of Thessaloniki (1996-2000).
- Visiting researcher to the Polymer Physics Laboratory, Institute of Chemistry, Chinese Academy of Science, Beijing, China (August-October 1995).

- Supervisor of a postgraduate student of ISA- Lille, France, on a research project concerning the evaluation of texture of French acid fresh cheeses(February-August 1993)
- Supervisor of twelve MSc degree dissertations (2004- )
- Member of the main research team of a research project titled “Development and utilization of instruments for the measurement of rheological properties of foods” jointly funded by the European Union and the Greek Ministry of Education within the framework of “ARCHIMEDES” Research Program (2004 - 2006)
- Scientific responsible of a research project titled «Formulation of biodegradable natural polymers for industrial use as packaging materials” jointly funded by the European Union and the Greek Ministry of Education within the framework of “ARCHIMEDES” Research Program (2006-2008)
- Supervisor of a doctoral research project concerning the physical properties of starch systems (1998-2006). The project was run jointly with the Department of Food Science of the University of Lincoln, UK. The PhD degree titled “A study on the effect of fatty acids on the gelatinization and rheological behaviour of starch dispersions during heating” was awarded in 2007. Three papers originated from the thesis were published in peer reviewed international research journals.(Numbers 23, 24 and 26 of the publication list).
- Supervisor of a doctoral research project concerning the structural and morphological characteristics as well as the physical properties of starch-fatty acid systems (2012-2015). The project was run jointly with the Department of Chemistry of the University of Ioannina, Greece . The PhD degree titled “The effect of the formation of amylose-fatty acid complexes on the structural and physicochemical characteristics of starch systems” was awarded in 2016. So far five papers originated from the thesis were published in peer reviewed international research journals. (Numbers 35, 36, 39, 40, 41 and 44 of the publication list).
- Supervisor of a doctoral research project concerning the structural characteristics as well as the rheological properties of the polysaccharide kefiran. The project was run jointly with the Department of Chemistry of the University of Ioannina, Greece. The PhD degree was awarded in May 2018. The title of the thesis is “Production, characterization and rheological properties of the polysaccharide kefiran’. So far two papers originated from the thesis were published in peer reviewed international research journals. (Numbers 42 and 43 of the publication list).
- Supervisor of a postdoctoral project funded by the Greek State Foundation of Scholarships (IKY) (2017-2019) titled “Production and study of the physicochemical and functional characteristics of molecular inclusion complexes of amylose with bioactive compounds of nutritional and therapeutic interest”
- Scientific partner in a research project of the BRITE/EURAM, EU program on the application of photothermal and photoacoustic methods to the determination of migration profiles of various components in foods, textiles and packaging

materials. The title of the project was “Control of migration profiles and structural evolution in thin and non-compact materials by photothermal methods”. The coordinator of the project was the University of Reims-France and the partners were Universities, research Institutes and companies from Britain, France, the Netherlands, Germany, Hungary, Romania, Italy, Slovenia and Greece(1998 - 2001) )(Contract No ERB BRRT-CT98-5041).

- Participant in the development of a series of scientific instruments such as rheometers and pilot equipment such as osmotic drying unit, fluidized bed freezer etc which were developed at the premises of the Food Processing and Engineering Pilot Plant of the Department of Food Technology, ATEI of Thessaloniki.
- Member of research group of an EU funded research project entitled “Active Biodegradable Starch Based Food Packaging Materials”. Coordinator of the project is the company “Athanasios Hatzopoulos S.A.-Flexible Packaging Materials”. 2014-2020, Total budget of the project: 594.557 €.

**European Patent Award:** Xu, Z.-M., **Rafailidis, S.**, Karapantsios, T., Tellos, E., Bounarelis C. (2009). Title of the invention « U-tube rheometer for the dynamic measurement of elasticity ». European patent No 1445599

#### **Referee at the Scientific Journals**

- Journal of Food Science
- Journal of the Science of Food and Agriculture
- Journal of Dairy Research
- Journal of Food Engineering
- Starch/Stärke
- LWT-Food Science and Technology
- Carbohydrate Polymers
- Foods
- Innovative Food Science and Emerging Technologies
- Food Hydrocolloids
- Journal of Cereal Science
- European Polymer Journal
- Journal of Agricultural and Food Chemistry
- International Journal of Biological Macromolecules
- Journal of Food Processing and Preservation
- Journal of Polymers and the Environment
- Food Bioscience

**Research publications in peer reviewed journal (asterisk \* denotes corresponding author) :**

1. Karkalas, J. and **Raphaelides, S.** (1986). Quantitative aspects of amylose-lipid interactions. *Carbohydrate Research*, **157**, 215-234.
2. **Raphaelides, S.** and Karkalas, J. (1988) Thermal dissociation of amylose-fatty acid complexes. *Carbohydrate Research*, **172**, 65-82.
3. **Raphaelides, N.S.\*** (1991).An investigation of the quantitative relationship of amylose- monoglyceride interactions. *LWT-Food Science and Technology*. **24**,391-396.
4. Deligaris, N, Papantoniou, D., Zelati, E. und **Rafailidis, S.**(1991) Identifizierung anaerober Sporenbildner aus bombierten Pfirsichkonserven. *Archiv fur Lebensmittelhygiene*, **42**, 1-24.
5. **Raphaelides, S. N.\*** (1992). Flow behaviour of starch-fatty acid systems in solution. *LWT-Food Science and Technology*.. **25**,95-101
6. **Raphaelides, S. N.\***(1992). Viscoelastic behaviour of amylose-fatty acid gels. *Journal of Texture Studies*, **23**, 297-313.
7. **Raphaelides, S. N.\*** (1993). Rheological studies of starch-fatty acid gels. *Food Hydrocolloids*, **7**, 479-495.
8. **Raphaelides, S. N.\***, Antoniou, K.D. and Petridis, D. (1995). Texture evaluation of ultrafiltered teleme cheese. *Journal of Food Science*.**60**, 1211-1215.
9. Ben Omar, Z., **Raphaelides, S. N.\*** and Kesteloot, R.(1995) Texture evaluation of French acid-type fresh cheeses. *Journal of Texture Studies*. **26**, 325-338.
10. **Raphaelides, S. N.\*** and Antoniou, K. D.(1996). The effect of ripening on the mechanical properties of traditional and ultrafiltered teleme cheeses. *Milchwissenschaft*. **51**,82-85.
11. **Raphaelides, S. N. \***, Ambatzidou, A. and Petridis, D.(1996).Sugar composition effects on textural parameters of peach jam. *Journal of Food Science*. **61**, 942-946.
12. Xu, Z-M. and **Raphaelides, S. N.\***(1998).Flow behaviour of concentrated starch dispersions using a tube rheometer of novel design. *Journal of Texture Studies*. **29**, 1-13.
13. **Raphaelides, S. N.\***, Grigoropoulou, S. and Petridis, D.(1998).Quality attributes of pariza salami as influenced by the addition of mechanically deboned chicken meat. *Food Quality and Preference* .**9**, 237-242.
14. Karapantsios, T. D., Sakonidou, E.P. and **Raphaelides, S. N.** (2000). Electrical conductance study of fluid motion and heat transport during starch gelatinization. *Journal of Food Science*.**65**, 144-150.
15. Antoniou, K. D., Petridis, D., **Raphaelides, S.N \***, Ben Omar, Z. and Kesteloot, R. (2000). Texture assessment of French cheeses. *Journal of Food Science*.**65**, 168-173.
16. Gavrielidou, M. A., Vallous, N. A., Karapantsios, T. D. and **Raphaelides, S.N.** (2001). Heat transport to a starch slurry gelatinising between the drums of a double drum dryer *Journal of Food Engineering*, **54**, 45-58
- 17 Karapantsios,T.D., Sakonidou, E.P. and **Raphaelides, S.N.** (2002).Water dispersion kinetics during maize starch gelatinization. *Carbohydrate Polymers*, **49**, 479-490.

- 18 Sakonidou, E.P., Karapantsios, T.D., and **Raphaelides, S.N** (2003) Mass transfer limitations during starch gelatinization. *Carbohydrate Polymers*, **53**, 53-61.
- 19 Kalogianni, E.P., Savopoulos, T., Karapantsios, T.D and **Raphaelides, S.N**. (2004). A dynamic wicking technique for determining the effective pore radius of pregelatinized starch sheets. *Colloids and Surfaces. B. Bionterfaces*, **33**, 159-167.
- 20 **Raphaelides, S.N.\*** and Gioldasi A. (2005). Elongational flow studies of set yogurt. *Journal of Food Engineering*, **70**, 538-545.
- 21 Xu, Z.-M. and **Raphaelides, S.N.\*** (2005) A dynamic U-tube rheometer of novel design for the study of weak gels and foams. *Rheologica Acta*, **45**, 77-82.
- 22 **Raphaelides, S.N.\***, Antoniou, K.D, Vasilliadou, S., Georgaki, C. and Gravanis, A. (2006). Ripening Effects on the Rheological Behaviour of Halloumi Cheese. *Journal of Food Engineering*, **76**, 321-326
- 23 **Raphaelides, S.N.\*** and Georgiadis, N. (2006) Effect of fatty acids on the rheological behaviour of maize starch dispersions during heating. *Carbohydrate Polymers*, **65**, 81-92.
- 24 **Raphaelides, S.N.\*** and Georgiadis, N. (2007) Effect of fatty acids on the rheological behaviour of pea starch dispersions during heating. *Food Hydrocolloids*, **21**, 1188 – 1200.
- 25 Xu, Z.-M., Emmanouelidou, D.G., **Raphaelides, S.N.\*** and Antoniou, K.D. (2007) Effects of heating temperature and fat content on the structure development of set yogurt. *Journal of Food Engineering*, **85**, 590-597.
- 26 **Raphaelides, S.N.\*** and Georgiadis, N. (2008) Effect of fatty acids on the rheological behaviour of amylo maize starch dispersions during heating. *Food Research International*. **41**, 75-88.
- 27 Mantzari, G., **Raphaelides, S.N.\***, and Exarhopoulos, S. (2010) Effect of sorbitol addition on the physicochemical characteristics of starch-fatty acid systems. *Carbohydrate Polymers*, **79**, 154-163.
- 28 **Raphaelides, S.N.\***, Arsenoudi, K., Exarhopoulos, S. and Xu, Z.-M (2010). Effect of processing history on the functional and structural characteristics of starch-fatty acid extrudates. *Food Research International*, **43**, 329-341.
- 29 **Raphaelides, S.N.\***, Dimitreli, G., Exarhopoulos, S., Kokonidis, G and Tzani, E. (2011). Effect of processing history on the physicochemical and structural characteristics of starch-fatty acid extrudates plasticized with glycerol. *Carbohydrate Polymers*, **83**, 727-736.
- 30 Exarhopoulos, S and **Raphaelides, S.N.\*** (2012) Morphological and structural studies of thermally treated starch-fatty acid systems. *Journal of Cereal Science*, **55**, 139-152.
- 31 **Raphaelides, S.N.\***, Dimitreli, G., Exarhopoulos, S., Mintzas, D. and Lykidou, A. (2012) Effect of processing conditions on the physicochemical and structural characteristics of pregelatinised starch–fatty acid–glycerol extrudates. *Carbohydrate Polymers*, **88**, 282–289.
- 32 Yovanoudi, M., Dimitreli, G., **Raphaelides, S.N.\*** and Antoniou, K.D. (2013) Flow behavior studies of kefir type systems. *Journal of Food Engineering*, **118**, 41–48.

33. Vasiliadou, E., **Raphaelides, S.N.\*** and Papastergiadis, E. (2015) Effect of heating time and temperature on partially gelatinized starch-fatty acid interactions. *LWT - Food Science and Technology*, 60, 698-707
34. **Raphaelides, S.N.\***, Dimitreli, G., Exarhopoulos, S., Ilija, E. and Koutsomihali, P. (2015) A process designed for the continuous production of starch inclusion complexes on an industrial scale. *Food and Bioproducts Processing*, 96, 245-255.
35. Marinopoulou, A., Kalogianni, E.P. and **Raphaelides, S.N.** (2016) Amylose-fatty acid inclusion complexes as examined by interfacial tension measurements. *Colloids and Surfaces B: Biointerfaces*, 137, 133-137.
36. Marinopoulou, A., Papastergiadis, E., **Raphaelides, S.N.\*** and Kontominas, M.G. (2016) Morphological characteristics, oxidative stability and enzymic hydrolysis of amylose-fatty acid complexes. *Carbohydrate Polymers*, 141, 106–115.
37. Antoniou, K., D., Exarhopoulos, S., **Raphaelides, S., N.**, Dimitreli, G. and Thomareis, A., S. (2016). Effect of Sodium Caseinates Addition on the Rheological Properties of Kefir during Gel Formation. *Journal of Food Research*, 5, 114-120.
38. Dimitreli, G., Exarhopoulos, S., Goulas, A., Antoniou, K., D. and **Raphaelides, S., N.** (2016). Effect of Kefiran and Milk Proteins Addition on the Rheological Behavior of Glucono- $\delta$ -Lactone Induced Milk Gels. *Journal of Food Research*, 5, 121-128.
39. Marinopoulou, A., Papastergiadis, E., **Raphaelides, S.N.\*** and Kontominas, M.G. (2016) Structural characterization and thermal properties of amylose- fatty acid complexes prepared at different temperatures. *Food Hydrocolloids*, 58, 224-234.
40. Marinopoulou A., Papastergiadis E., **Raphaelides S.N.\*** (2016): An investigation into the structure, morphology and thermal properties of amylose-maize starch-fatty acid complexes prepared at different temperatures. *Food Research International*, 90, 111-120.
41. Marinopoulou A., Papastergiadis E., **Raphaelides S.N.\*** (2017): Investigation of the presence of KCl in the structure and morphology of V-amylose-inclusion complexes. *Journal of Inclusion Phenomena and Macrocyclic Chemistry*, 88, 69-76
42. Exarhopoulos S., **Raphaelides S.N.\*** and Kontominas, M.G. (2017) Conformational studies and molecular characterization of the polysaccharide kefiran. *Food Hydrocolloids*, 77, 347-356.
43. Exarhopoulos S., **Raphaelides S.N.\*** and Kontominas, M.G. (2018) Flow behavior studies of kefiran systems. *Food Hydrocolloids*, 79, 282-290,
44. Marinopoulou, A. and **Raphaelides S.N.\*** (2018). Dynamic light scattering and electrophoretic mobility studies of starch-fatty acid complexes in solution. *International Journal of Biological Macromolecules*, 116, 585-590.
45. Marinopoulou A., Papastergiadis E., **Raphaelides S.N.\*** (2019): Inclusion Complexes of Non-Granular Maize Starch with Fatty Acids and Ibuprofen. A Comparative Study of Their Morphology and Structure. *Starch/Stärke*, 71, 1800100
46. Marinopoulou A., Christofilos, D. Arvanitidis J., **Raphaelides S.N.\*** (2019) Study

of Molecular Inclusion Complex Formation of Amylose with Indomethacin. *Starch/Stärke*, 71, 1800295

47. Kontou, V., Dimitreli, G., and **Raphaelides, S.N.\*** (2019) Elongational flow studies of processed cheese spreads made from traditional greek cheese varieties. *LWT-Food Science and Technology*, 107, 318-324.
48. Marinopoulou A., Christofilos, D. Arvanitidis J., **Raphaelides, S.N.\*** (2019) An investigation into the possibility of molecular inclusion complexation of indomethacin with starch by the alkaline method. *Journal of Inclusion Phenomena and Macrocyclic Chemistry*, 93, 347–359.
49. Marinopoulou A., Petridis D., **Raphaelides S.N.\*** (2019): Assessment of textural changes in sliced pan bread on aging using sensory and instrumental methods. *Journal of Food Processing and Preservation*. DOI: 10.1111/jfpp.13982
50. Marinopoulou A., Karageorgiou, V., Papastergiadis E., Iordanidis, C., Dagklis, A., **Raphaelides S.N.\*** (2019): Production of spray dried starch molecular inclusion complexes on an industrial scale. *Food and Bioprocess Technology*, 116, 186-195.
51. Marinopoulou A., Karageorgiou, V., Iordanidis, C., Dagklis, A., Zoumakis, N., **Raphaelides S.N.\*** (2019): Parametric analysis of the spray drying process for the production of starch molecular inclusion complexes with fatty acids. *Drying Technology*. DOI:10.1080/07373937.2019.1696817.
52. Mansour, G., Zoumaki, M., Marinopoulou, A., **Raphaelides, S.N.\***, Tzetzis, D., Zoumakis, N. (2020). Investigation of the effects of glycerol and clay contents on the structure and mechanical properties of maize starch nanocomposite films. *Starch/Stärke*, 72, Issue: 3-4. Article number : 1900166. DOI: 10.1002/star.201900166.
53. Skarlatos, L., Marinopoulou, A., Petridis, D., **Raphaelides, S.N.\*** (2020). Texture assessment of set yogurt using sensory and instrumental methods. *International Dairy Journal*, 104. Article number: UNSP 104644. DOI: 10.1016/j.idairyj.2020.104644.
54. Mansour, G., Zoumaki, M., Marinopoulou, A., Tzetzis, D., Prevezanos, M., **Raphaelides, S.N.\*** (2020). Characterization and properties of non-granular thermoplastic starch - Clay biocomposite films. *Carbohydrate Polymers*. In press.
55. Marinopoulou A., Christofilos, D. Arvanitidis J., **Raphaelides, S.N.\*** (2020). Interaction of tretinoin and nimesulide with amylose matrices. *Starch – Stärke*. DOI:10.1002/star.202000054
56. Marinopoulou, A., Karageorgiou, V., Petridis, D. **Raphaelides, S.N.\*** (2020) Physical properties of starch-paracetamol molecular inclusion complexes produced by the spray drying process on an industrial scale, *Drying Technology*, DOI: 10.1080/07373937.2020.1815764
57. Skarlatos, L., Marinopoulou, A., Petridis, A., **Raphaelides, S.N.\*** (2021) Texture attributes of acid coagulated fresh cheeses as assessed by instrumental and sensory methods. *International Dairy Journal*. 114, 104939

Number of citations (excluding self citations): 1005

**h-index= 19.0**