

# **Curriculum vitae de Loic Hilliou**

September 2015

## **1. Personal data**

*Name* Loïc Hilliou  
*Date of Birth* 16.11.1969  
*Nationality* French  
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[h-index \(Scopus and Web of , accessed on September 28th 2015\)=17.](#)

## **2. Present activity**

Since 2015, Principal Researcher at the Institute for Polymers and Composites/I3N, Department of Polymer Engineering, University of Minho, 4800-058 Guimar es.

## **3. Past activities**

2013 - 2015 Invited Assistant Researcher at the Institute for Polymers and Composites/I3N, Department of Polymer Engineering, University of Minho, 4800-058 Guimar es, in the frame of project "Matepro e Optimizing Materials and Processes" (reference NORTE-07-0124-FEDER-000037 FEDER COMPETE) funded by the Programa Operacional Regional do Norte (ON.2).

2008 - 2013 Assistant Researcher at the Institute for Polymers and Composites/I3N, Department of Polymer Engineering, University of Minho, 4800-058 Guimar es.

2004 - 2008 Assistant Researcher at the REQUIMTE, Associate Laboratory, with research activity in the Laboratory of Food Rheology and Engineering, Department of Chemical Engineering, University of Porto.

2002-2003 Post-doctoral stay at BASF, Ludwigshaffen, and at the Max Planck Institute for polymer Research (MPIP), Mainz, Germany. Activity: consulting and technology transfer (confidentiality contract running up to ending 2013).

2001-2002 Post-doctoral stay at TOTAL, Cerdato, Serquigny, France, and at the Max Planck Institute for polymer Research (MPIP), Mainz, Germany. Activity: consulting and technology transfer, namely Fourier Transform Rheology, from MPIP to ARKEMA (TOTAL subsidiary).

- 1999-2001 Post-doctoral grant at CENIMAT, Universidade Nova de Lisboa, in the frame of European TMR project entitled "Molecular Design of Functional Liquid Crystal" (EU-TMR Network FMRX-CT97-0121). Activity: development of rheo-NMR techniques for the *in situ* structural characterization of materials undergoing flow.
- 1997-2001 Post-doctoral stay at the Institute for Electronic structure and Laser, from the Greek Foundation for Science and Technology (IESL-FORTH), Heraklion, Crete, Greece. Activity: development of rheo-optical techniques (polarimetry and microscopy) for the study of the interplay between flow and flow-induced structures in polymer solutions, biopolymers, colloidal systems, crystallizing polymer melts, etc.

#### **4. Academic background**

- 1996 PhD in Chemical-Physics of macromolecular and molecular materials, from the University of Strasbourg I, France. Thesis title: "Mechanical behavior of side chain liquid crystalline polymers and elastomers". The PhD was certified by the University of Porto, Portugal, with registration n.º 56/2012.
- 1992 Master in Chemical-Physics of materials, University of Strasbourg I, France.
- 1990 BsC in Physics, University of Mulhouse , France.

### **5. Scientific outputs**

#### **5.a. Awards**

2014 Principal Investigator Grant awarded by the FCT Investigator Programme (<http://www.fct.pt/apoios/contratacaodoutorados/investigador-fct/index.phtml.en>).

#### **5.b. Papers in peer reviewed international journals (\*corresponding author)**

1. M.D. Torres, G. Azevedo, L. Hilliou\*. Phase diagrams of hybrid carrageenan extracted from *Ahnfeltiopsis devoniensis* and *Chondrus crispus*. (2016). *Carbohydrate Polymers*, 136: 449-458. DOI: 10.1016/j.carbpol.2015.09.015.
2. P.F. Teixeira, J.M. Maia, J.A Covas, L. Hilliou\*. A small-scale experimental extrusion set-up for exploring relationships between process-induced structures and characteristics of multiphase polymer systems. (2015). *Macromolecular Materials and Engineering*, in print, DOI: 10.1002/mame.201500196.
3. L. Hilliou\*, D. Machado, C.S.S. Oliveira, A.R. Gouveia, M.A.M. Reis, S. Campanari, M. Villano, M. Majone. Impact of fermentation residues on the thermal, structural and rheological properties of polyhydroxy(butyrate-co-valerate) produced from cheese whey and olive oil mill wastewater. (2015). *Journal of Applied Polymer Science*, in print, DOI: 10.1002/APP.42818.
4. P.F. Teixeira, S.N. Fernandes, J. Canejo, M.H. Godinho, J.A. Covas, C. Leal, L. Hilliou\*. Rheo-optical characterization of liquid crystalline acetoxypopylcellulose melt undergoing large shear flow and relaxation after flow cessation. (2015). *Polymer*, 71: 102-112, DOI: 10.1016/j.polymer.2015.06.056.
5. E. Cunha, M.C. Paiva, L. Hilliou, J.A. Covas. Tracking the Progression of Dispersion of Graphite Nanoplates in a Polypropylene Matrix by Melt Mixing. (2015). *Polymer Composites*, in print, DOI: 10.1002/pc.23657.
6. A. Martínez-Abad, L. Cabedo, C.S.S. Oliveira, L. Hilliou, M. Reis, J.M. Lagarón. Characterization of polyhydroxyalkanoate blends incorporating unpurified biosustainably produced poly(3-

- hydroxybutyrate-co-3-hydroxyvalerate. (2015). *Journal of Applied Polymer Science*, in print, DOI: 10.1002/app.42633.
7. N. Kang, Y.J. Zuo, L. Hilliou, M. Ashokkumar, Y. Hemar. Viscosity and hydrodynamic radius relationship of high-power ultrasound depolymerised starch pastes with different amylose content. (2016). *Food Hydrocolloids*, 52: 183-191. DOI: [10.1016/j.foodhyd.2015.06.017](https://doi.org/10.1016/j.foodhyd.2015.06.017).
  8. G.A. Valencia, I.C.F. Moraes, L. Hilliou, R.V. Lourenço, P.J.A. Sobral. Nanocomposite-forming solutions based on cassava starch and laponite: viscoelastic and rheological characterization. (2015). *Journal of Food Engineering*, 166: 174-181. DOI: [10.1016/j.jfoodeng.2015.06.006](https://doi.org/10.1016/j.jfoodeng.2015.06.006).
  9. A.A. Adesina, M.N. Nasser, P. Teixeira, L. Hilliou, J.A. Covas, I.A. Hussein. Rheology of organoclay assisted extrusion of HDPE using particle image velocimetry. (2015). *Chemical Engineering Research and Design*, 100: 113-125. DOI: [10.1016/j.cherd.2015.05.018](https://doi.org/10.1016/j.cherd.2015.05.018).
  10. G. Azevedo, M.D. Torres, I. Sousa-Pinto, L. Hilliou\*. Effect of pre-extraction alkali treatment on the chemical structure and gelling properties of extracted hybrid carrageenan from *Chondrus crispus* and *Ahnfeltiopsis devoniensis*. (2015). *Food Hydrocolloids*, 50: 150-158, DOI: [10.1016/j.foodhyd.2015.03.029](https://doi.org/10.1016/j.foodhyd.2015.03.029).
  11. F.D.S. Larotonda, M.D. Torres, M.P. Gonçalves, A.M. Sereno, L. Hilliou\*. Hybrid carrageenan-based formulations for edible film preparation: benchmarking with kappa carrageenan. (2015). *Journal of Applied Polymer Science*, in print, DOI: [10.1002/app.42263](https://doi.org/10.1002/app.42263).
  12. M. Cunha, B. Fernandes, J.A. Covas, A.A. Vicente, L. Hilliou\*. Film blowing of PHBV blends and PHBV-based multilayers for the production of biodegradable packages. (2015). *Journal of Applied Polymer Science*, in print, DOI: [10.1002/app.42165](https://doi.org/10.1002/app.42165).
  13. I. Gonçalves, C.M. Botelho, A. Teixeira, A.S. Abreu, L. Hilliou, C. Silva, A. Cavaco-Paulo. Antimicrobial lubricant formulations containing poly(hydroxybenzene)-trimethoprim conjugates synthesized by tyrosinase. (2015). *Applied Microbiology and Biotechnology*, 99:4225-4235, DOI [10.1007/s00253-015-6509-1](https://doi.org/10.1007/s00253-015-6509-1).
  14. M-A. Berthet, H. Angellier-Coussy, D. Machado, L. Hilliou, A. Staebler, A. Vicente, N. Gontard. Exploring the potentialities of using lignocellulosic fibres derived from three food by-products as constituents of biocomposites for food packaging. (2015). *Industrial Crops and Products*, 69:110-122. <http://dx.doi.org/10.1016/j.indcrop.2015.01.028>.
  15. I. Bernacka-Wojcik, S. Ribeiro, P. Jerzy Wojcik, P. Urbano Alves, T. Busani, E. Fortunato, P. Viana Baptista, J.A. Covas, H. Aguas, L. Hilliou\*, R. Martins. Experimental optimization of a passive planar rhombic micromixer with obstacles for effective mixing in a short channel length. (2014). *RCS Advances*, 4:56013-56025. DOI: [10.1039/c4ra10160j](https://doi.org/10.1039/c4ra10160j).
  16. F. Cyriac, J.A. Covas, L. Hilliou, I. Vittorias. Predicting extrusion instabilities of commercial polyethylene from non-linear rheology measurements. (2014). *Rheologica Acta*, 53:817-829. <http://dx.doi.org/doi:10.1007/s00397-014-0798-7>.
  17. M.D. Torres, B. Hallmark, D.I. Wilson, L. Hilliou. Natural Giesekus fluids: shear and extensional behavior of food gum solutions in the semidilute regime. (2014). *AIChE Journal*, 60:3902-3915. <http://dx.doi.org/doi:10.1002/aic.14611>
  18. M. Cunha, M-A. Berthet, R. Pereira, J.A. Covas, A.A. Vicente, L. Hilliou\*. New biodegradable composites for food packaging. (2014). *SPEpro (Society of Plastics Engineers Plastics research Online)*, in print, <http://dx.doi.org/doi:10.2417/spepro.005559>.
  19. C. Rogriguez-Rivero, L. Hilliou, E.M. Martin del Valle, M.A. Galan. Rheological characterization of commercial highly viscous alginate solutions in shear and extensional flows. (2014). *Rheologica Acta*, 53: 559-570. DOI [10.1007/s00397-014-0780-4](https://doi.org/10.1007/s00397-014-0780-4)
  20. M. Cunha, M-A. Berthet, R. Pereira, J.A. Covas, A.A. Vicente, L.Hilliou\*. Development of Polyhydroxyalkanoate/Beer Spent Grain Fibers Composites for Film Blowing Applications. (2015). *Polymer Composites*, 36: 1859-1865. <http://dx.doi.org/doi:10.1002/pc.23093>.

21. G. Azevedo, B. Domingues, H. Abreu, I. Sousa-Pinto, G. Feio, L. Hilliou\*. Impact of cultivation of *Mastocarpus stellatus* in IMTA on the seaweeds chemistry and hybrid carrageenan properties. (2015). Carbohydrate Polymers, 116:140-148. <http://dx.doi.org/doi:10.1016/j.carbpol.2014.04.069>.
22. P.F. Teixeira, J.M. Maia, J.A. Covas, L. Hilliou\*. In-line particle size assessment of polymer suspensions during processing. (2014). Polymer Testing, 37: 68-77. <http://dx.doi.org/doi:10.1016/j.polymertesting.2014.05.001>.
23. J. Peralta, L. Hilliou\*, H.M.R.D. Silva, A.V. Machado, R.C. Williams. Rheological changes in the bitumen caused by heating and interaction with rubber during asphalt-rubber production. (2014). Rheologica Acta, 53: 143-157. <http://link.springer.com/article/10.1007%2Fs00397-013-0748-9>. **(1 citation ISI Web of Knowledge)**
24. G. Azevedo, G. Bernardo, L. Hilliou\*. NaCl and KCl phase diagrams of kappa/iota-hybrid carrageenans extracted from *Mastocarpus stellatus*. (2014). Food Hydrocolloids, 37: 116-123. <http://dx.doi.org/10.1016/j.foodhyd.2013.10.029>. **(3 citations ISI Web of Knowledge)**
25. C. Brovelli, L. Hilliou\*, Y. Hemar, J. Pais, P. Pereira, M. Crispino. Rheological characteristics of EVA modified bitumen and their correlations with bitumen concrete properties. (2013). Construction and Building Materials, 48: 1202-1208. **(Impact factor 2.265 ISI Web of Knowledge)**
26. A. Rodrigues, M.C.R. Castro, A.S.F. Farinha, M. Oliveira, J.P.C. Tomé, A.V. Machado, M.M.M. Raposo, L. Hilliou, G. Bernardo. Thermal stability of P3HT and P3HT:PCBM blends in the molten state. (2013). Polymer Testing, 32: 1192-1201. **(4 citation ISI Web of Knowledge)**
27. L. Hilliou\*, A.M. Sereno, M.P. Gonçalves. Gel setting of hybrid carrageenan solutions under steady shear. (2014). Food Hydrocolloids, 35: 531-538. [doi:10.1016/j.foodhyd.2013.07.013](http://dx.doi.org/10.1016/j.foodhyd.2013.07.013) **(3 citations ISI Web of Knowledge)**
28. A. Rodrigues, D. Nabankur, L. Hilliou, J. Viana, D.G. Bucknall, G. Bernardo. Low temperature solid state processing of pure P3HT fibers. (2013). AIP Advances, 3:052116; DOI 10.1063/1.4806764. **(3 citations ISI Web of Knowledge)**
29. P.F. Teixeira, L. Hilliou, J.A. Covas, J.M. Maia. Assessing the practical utility of the hole-pressure method for the in-line rheological characterization of polymer melts. (2013). Rheologica Acta, 52: 661-672. **(1 citation, Impact factor 1.628 ISI Web of Knowledge)**.
30. J F. D. Rodrigues, M. Cunha, L. Hilliou, L. Rino, M. R. Correia, T. Busani, G. Bernardo, H. Wiggers, S. A. Filonovich and R. N. Pereira. Impact of composition and morphology on the optical properties of Si-NC/P3HT thin films processed from solution. (2013). Applied Physics A, 113:439-446. DOI 10.1007/s00339-012-7540-z **(Impact factor 1.6 ISI Web of Knowledge)**
31. M. Cunha, G. Bernardo, L. Hilliou\*, H. Wiggers, R.N. Pereira. Morphology Control of Thin P3HT-Si-NCs Composite Films For Hybrid Photovoltaic Cells. (2013). Materials Science Forum, 730-332: 227-231. **(0 citations ISI Web of Knowledge)**
32. G. Azevedo, L. Hilliou\*, G. Bernardo, I. Sousa-Pinto, R.W. Adams, M. Nilsson, R.D. Villanueva. Tailoring kappa/iota-hybrid carrageenan from *Mastocarpus stellatus* with desired gel quality through pre-extraction alkali treatment. (2013). Food Hydrocolloids, 31: 94-102. **(Impact factor 4.3, 5 citations ISI Web of Knowledge)**
33. R. Moreira, F. Chenlo, C. Silva, M.D. Torres, D. Diaz-varela, L. Hilliou and H. Argence. Surface tension and refractive index of guar and tragacanth gums aqueous dispersions at different polymer concentrations, polymer ratios and temperatures. (2012) Food Hydrocolloids, 28: 284-290. **(Impact factor 3.49, 2 citations ISI Web of Knowledge)**
34. L. Hilliou\*, F.D.S. Larotonda, P. Abreu, M.H. Abreu, A.M. Sereno and M.P. Gonçalves. The impact of seaweed life phase and post-harvest storage duration on the chemical and rheological properties of hybrid carrageenans isolated from Portuguese *Mastocarpus*

- stellatus. (2012) Carbohydrate Polymers, 87: 2655-2663. **(Impact factor 3.479, 2 citations ISI Web of Knowledge)**
35. J. Peralta, H.R.M.D. Silva, L. Hilliou, A.V. Machado, J. Pais and R.C. Williams. Mutual changes in bitumen and rubber related to the production of asphalt rubber binders. (2012). Construction and Building Materials, 36: 557–565. **(Impact factor 2.29, 2 citations ISI Web of Knowledge)**
36. H.K.S Souza, L. Hilliou, M. Bastos, M.P. Gonçalves. Effect of molecular weight and chemical structure on thermal and rheological properties of gelling kappa/iota-hybrid carrageenan solutions. (2011). Carbohydrate Polymers, 85: 429-438. **(Impact factor 3.628, 7 citations ISI Web of Knowledge)**
37. R. Moreira, F. Chenlo, M. D. Torres, C. Silva, D. M. Prieto, A. M. M. Sousa, L. Hilliou, and M. P. Gonçalves. Drying Kinetics of Biofilms Obtained from Chestnut Starch and Carrageenan with and without Glycerol. (2011). Drying Technology, 29: 1058-1065. **(Impact factor 2.084, 2 citations ISI Web of Knowledge)**
38. J. Peralta, L. Hilliou\*, H.M.R.D. Silva, A.V MMachado, J.C Pais, J.R.M. Oliveira. Rheological quantification of bitumen aging: definition of a new sensitive parameter. (2010). Applied Rheology, 20: 63293. **(Impact factor 0.787, 5 citations ISI Web of Knowledge)**
39. R.D. Villanueva, A.M.M. Sousa, M.P. Gonçalves, M. Nilsson, L. Hilliou. Production and properties of agar from the invasive marine alga, Gracilaria vermiculophylla (Gracilariales, Rhodophyta). (2010). Journal of Applied Phycology, 22: 211-220. **(Impact factor 1.792, 15 citations ISI Web of Knowledge)**
40. A.M.M Sousa, A.M. Sereno, L. Hilliou\*, M.P. Gonçalves. Biodegradable Agar extracted from Gracilaria Vermiculophylla: film properties and application to edible coating. (2010). Materials Science Forum, 636-637: 739-744. **(3 citations ISI Web of Knowledge)**
41. M.D. Sanchez-Garcia, L. Hilliou, J.M. Lagaron JM. Morphology and Water Barrier Properties of Nanobiocomposites of k/i-Hybrid Carrageenan and Cellulose Nanowhiskers. (2010). Journal of Agricultural & Food Chemistry, 58: 12847-12857. **(Impact factor 2.816, 11 citations ISI Web of Knowledge)**
42. M.D. Sanchez-Garcia, L. Hilliou, J.M. Lagaron JM. Nanobiocomposites of Carrageenan, Zein, and Mica of Interest in Food Packaging and Coating Applications. (2010). Journal of Agricultural & Food Chemistry, 58: 6884-6894. **(Impact factor 2.816, 19 citations ISI Web of Knowledge)**
43. L. Hilliou\*, M. Wilhelm, M. Yamanoi, M.P. Gonçalves. Structural and mechanical characterization of k/i-hybrid carrageenan gels in potassium salt using Fourier Transform rheology. (2009). Food Hydrocolloids, 23: 2322-2330. **(Impact factor 3.196, 7 citations ISI Web of Knowledge)**
44. C. Rocha, J.A. Teixeira, L. Hilliou, P. Sampaio, M.P. Gonçalves. Rheological and structural characterization of gels from whey protein hydrolysates/locust bean gum mixed systems. (2009). Food Hydrocolloids, 23: 1734-1745. **(Impact factor 3.196, 8 citations ISI Web of Knowledge)**
45. R.D. Villanueva, L. Hilliou, I. Sousa-Pinto. Postharvest culture in the dark: An eco-friendly alternative to alkali treatment for enhancing the gel quality of kappa/iota-hybrid carrageenan from Chondrus crispus (Gigartinales, Rhodophyta). (2009). Bioresource Technology, 100: 2633-2638. **(Impact factor 4.253, 9 citations ISI Web of Knowledge)**
46. F. Freitas, V.D. Alves, J. Pais, N. Costa, C. Oliveira, L. Mafra, L. Hilliou, R. Oliveira, M.A.M. Reis. Characterization of an extracellular polysaccharide produced by a Pseudomonas strain grown on glycerol. (2009). Bioresource Technology, 100: 859-865. **(Impact factor 4.253, 52 citations ISI Web of Knowledge)**
47. L. Hilliou\*, F. Freitas, R. Oliveira, M.A.M. Reis, D. Lespigneux, C. Grandfils, V.D. Alves. Solution properties of an exopolysaccharide from a Pseudomonas strain obtained using glycerol as sole

- carbon source. (2009). Carbohydrate Polymers, 78: 526-532. **(Impact factor 3.167, 15 citations ISI Web of Knowledge)**
48. L. Hilliou\*, D. Vlassopoulos, S. Pispas, N. Hadjichristidis. A Rheo-optical Study of Stress-Fluctuations Coupling in a Disordered and Entangled Diblock Copolymer Solution. (2008). Macromolecules, 41: 3328-3338. **(Impact factor 4.407, 2 citation ISI Web of Knowledge)**
49. A. Sousa, S. Martins, F.D.S. Larotonda, L. Hilliou\*, M.P. Gonçalves, A.M. Sereno. Biodegradable polymers extracted from "Sargaço": film properties and application to edible coating. (2008). Materials Science Forum, 587-588: 548-552. **(1 citations ISI Web of Knowledge)**
50. L. Hilliou\*, M.P. Gonçalves. Gelling properties of a kappa/iota-hybrid carrageenan: effect of concentration and steady shear. (2007). International Journal of Food Science & Technology, 42: 678-685. **(Impact factor 0.941; 9 citations ISI Web of Knowledge)**
51. L. Hilliou\*, F.D.S Larotonda, A.M Sereno and M.P. Gonçalves. Thermal and viscoelastic properties of k/i-hybrid carrageenan gels obtained from Mastocarpus stellatus Portuguese seaweeds. (2006). Journal of Agricultural & Food Chemistry, 54: 7870-7878. **(Impact factor 2.322; 22 citations ISI Web of Knowledge)**
52. L. Hilliou\*, F.D.S Larotonda, P. Abreu, A.M. Ramos, A.M. Sereno and M.P. Gonçalves. Effect of extraction parameters on the chemical structure and gel properties of kappa/iota-hybrid carrageenans obtained from Mastocarpus stellatus. (2006). Biomolecular Engineering, 23: 201-208. **(Impact factor 2.568; 29 citations ISI Web of Knowledge)**
53. V. Alves, N. Costa, L. Hilliou, F.D.S. Larotonda, M.P. Gonçalves, A.M. Sereno and I. Coelho. Design of biodegradable composite films for food packaging. (2006). Desalination, 199: 331-333. **(Impact factor 0.917; 17 citations ISI Web of Knowledge)**
54. L. Hilliou, D. van Dusschoten, M. Wilhelm, H. Burhin and E.R. Rodger. Increasing the torque transducer sensitivity of an RPA 2000 by a factor 5-10 using advanced data acquisition. (2004). Rubber Chemistry and Technology, 77: 192-200. **(Impact factor 0.655; 14 citations ISI Web of Knowledge)**
55. L. Hilliou, L. and D. Vlassopoulos, D. Time periodic structures and instabilities in shear thickening polymer solutions. (2002). Industrial and Engineering Chemistry Research, 41: 6246-6255. **(Impact factor 1.247; 27 citations ISI Web of Knowledge)**
56. L. Hilliou, D. Vlassopoulos and M. Rehahn. Dynamics of Nondilute Hairy-Rod Polymer Solutions in Simple Shear Flow. (2001). Macromolecules 34: 1742-1750. **(Impact factor 3.733; 6 citations ISI Web of Knowledge)**
57. G. Floudas, L. Hilliou, D. Lellinger and I. Alig. Shear Induced Crystallization of Poly( $\epsilon$ -caprolactone). II. Evolution of Birefringence and Dichroism. (2000). Macromolecules 33: 6466-6472. **(Impact factor 3.697; 26 citations ISI Web of Knowledge)**
58. L. Hilliou, D. Vlassopoulos and M. Rehahn. Dynamics of Hairy-Rod Polymer Solutions in Simple Shear Flow: Aging Effects. (2000). Macromolecules 33: 3105-3110. **(Impact factor 3.697; 5 citations ISI Web of Knowledge)**
59. J. Weillepp, J.J. Zanna, N. Assfalg, P. Stein, L. Hilliou, M. Mauzac, H. Finkelmann, H.R. Brand and P. Martinoty. Rheology of Liquid Crystalline Elastomers in their Isotropic and Smectic A state. (1999). Macromolecules, 32: 4566-4574. **(Impact factor 3.534; 33 citations ISI Web of Knowledge)**
60. P. Martinoty, L. Hilliou, M. Mauzac, L.G Ben guigui and D. Collin. Side-Chain Liquid Crystal Polymers: a gel-like behavior below their gelation points. (1999). Macromolecules, 32: 1746-1752. **(Impact factor 3.534; 34 citations ISI Web of Knowledge)**
61. L. Hilliou, D. Vlassopoulos and M. Rehahn. Structural Rearrangements in Hairy-rod Polymer Solutions undergoing Shear. (1999). Rheologica Acta, 38: 514-527. **(Impact factor 1.5; 6 citations ISI Web of Knowledge)**

62. V. Fourmeaux-Demange, A. Brulet, J.P. Cotton, L. Hilliou, P. Martinoty, P. Keller and F. Boué. Rheology of a Comblike Liquid Crystalline Polymer as a Function of Its Molecular Weight. (1998). *Macromolecules*, 31: 7445-7452. (**Impact factor 3.44; 16 citations ISI Web of Knowledge**)
63. J.L. Gallani, L. Hilliou, P. Martinoty, F. Doublet and M. Mauzac. Mechanical Behavior of Side-Chain Liquid Crystalline Networks. (1996). *J. Phys II France*, 6: 1-19. (**Impact factor 2.003; 43 citations ISI Web of Knowledge**)
64. J.L. Gallani, L. Hilliou, P. Martinoty and P. Keller. Abnormal Viscoelastic Behavior of Side-Chain Liquid Crystal Polymers. (1994). *Physical Review Letters*, 72: 2109. (**Impact factor 6.626; 38 citations ISI Web of Knowledge**)

### **5.c. Book chapters**

65. L. Hilliou\*. Hybrid carrageenans: isolation, chemical structure and gel properties. In: *Advances in Food and Nutrition Research* volume 72, S-K. Kim (Ed.), 2014, PART A-chapter 2, pp 17-43, Elsevier, DOI: 10.1016/B978-0-12-800269-8.00002-6.
66. A.A. Vicente\*, M.A. Cerqueira, L. Hilliou, C.M.R. Rocha. Protein-based resins for food packaging. In *Multifunctional and nanoreinforced polymers for food packaging*; J-M. Lagarón (Ed.), 2011, chapter 22. pp 610-638. ISBN 978-1-84569-738-9, Woodhead Publishing.
67. F.D.S. Larotonda, L. Hilliou\*, M.P. Gonçalves, A.M. Sereno. From Low Value renewable Resources to green Biomaterials for Edible Coating Applications. In *Recent Advances In Research on Biodegradable Polymers and Sustainable Composites* (vol. 3); A. Jiménez, G. E. Zaikoz (Eds.), 2008, chapter 19. pp 177-185. ISBN 978-1-60692-155-5.

### **5.d. Proceedings in international conferences**

68. Cunha, M-A. Berthet, J.A. Covas, A.A. Vicente, L. Hilliou. (2013). PHBV/Beer spent grain fibres composites for food packaging: processability and film properties. In: J.M. Lagarón, L. Cabdo, A. López and M.J. Fabra. Editors. *POLYMAR 2013-1<sup>st</sup> International Conference in Polymers with Special Focus in Early Stage Researchers*. Publicacions de la Universitat Jaume I, ISBN: 978-84-8021-942-6, page 108.
69. Moreira, R., Chenlo, F., Torres, M.D., Silva, C., Prieto, D.M., Sousa, A.M.M., Hilliou, L., Gonçalves, M.P. (2010). Characterization of biofilms produced by knife-coating technique from chestnut starch and k/i-hybrid carrageenan. In: Fito P. and Toldrá F. Editors. *Proceedings of Foodinnova 2010, the International Conference on Food Innovation*; Editorial Universitat Politècnica de València (ISBN 978-84-693-5010-2 ); paper 85.
70. Moreira, R., Chenlo, F., Torres, M.D., Silva, C., Prieto, D.M., Sousa, A.M.M., Hilliou, L., Gonçalves, M.P. (2010). Drying kinetics and effect of drying on mechanical properties of biofilms obtained from chestnut starch and carrageenan with and without glycerol. In: Fito P. and Toldrá F. Editors. *Proceedings of Foodinnova 2010, the International Conference on Food Innovation*; Editorial Universitat Politècnica de València (ISBN 978-84-693-5010-2 ); paper 87.
71. Hilliou, L., Larotonda F.D.S., Gonçalves, M.P., Sereno A.M. (2009). How long can dried carrageenophyte seaweeds be stored without affecting carrageenan gel properties? In: Fischer P., Pollard, M., Windhab E.J., editors. *Proceedings of the 5th International Symposium on Food Rheology and Structure*. Laboratory of Food Process Engineering (ISBN 978-3-905609-43-1); pp 746-747.
72. Hilliou, L., Gonçalves, M.P. and Wilhelm, M. (2009). Interplay between microstructure and mechanical properties in carrageenan gels in NaCl salt and in gelatin gels. In: Fischer P., Pollard, M., Windhab E.J., editors. *Proceedings of the 5th International Symposium on Food*

- Rheology and Structure. Laboratory of Food Process Engineering (ISBN 978-3-905609-43-1); pp 306-309.
73. Rocha, C., Hilliou, L., Gonçalves, M.P., Teixeira, J. (2008). Influence of the concentration of locust bean gum on the gelling ability of whey peptic hydrolysates. In: Farreiro, E. C., Mota, M., Editors. Proceedings of CHEMPOR 2008-10th International Chemical and Biological Engineering Conference, PC031 (ISBN: 978-972-9780-3-2).
  74. Hilliou, L. and Gonçalves, M.P. (2006). Gelling properties of a kappa/iota-hybrid carrageenan: effect of salt, concentration and steady shear. In: Fischer P., Erni, P., Windhab E.J., editors. Proceedings of the 4th International Symposium on Food Rheology and Structure. Lappersdorf: Kerschensteiner Verlag; pp 363-367.
  75. Vázquez da Silva, M., Hilliou, L., Gonçalves, M.P. (2005). Study of cold-set whey protein gels prepared with Mg<sup>2+</sup>. CHEMPOR 2005 - 9th International Chemical Engineering Conference – Full Papers in CD-ROM (ISBN: 972-8055-13-7), Departamento de Engenharia Química da Universidade de Coimbra, 6 pp., 2005.
  76. Alves, V.D., Hilliou, L., F.D.S. Larotonda, Coelho, I.M., Gonçalves, M.P., Sereno, A.M., (2005). Characterization of model edible films using hydrocolloids and pectins. CHEMPOR 2005 - 9th International Chemical Engineering Conference – Full Papers in CD-ROM (ISBN: 972-8055-13-7), Departamento de Engenharia Química da Universidade de Coimbra, 6 pp., QL096, 2005.
  77. Hilliou, L., Larotonda, F.D.S., Abreu, P., Ramos, A.M., Gonçalves, M.P., Sereno, A.M. (2005). Effect of seasonal variation on the chemical and physical properties of carrageenans extracted from *Mastocarpus Stellatus* and *Gigartina Pistillata*. CHEMPOR 2005 - 9th International Chemical Engineering Conference – Full Papers in CD-ROM (ISBN: 972-8055-13-7), Departamento de Engenharia Química da Universidade de Coimbra, 6 pp., 2005.
  78. Ramos, A.M., Coelho, H., Guerreiro, L., Relva, A.M., Hilliou, L., Larotonda, F.D.S., Sereno, A.M. (2005). Extraction of biopolymers from natural resources and industrial wastes for edible films applications. CHEMPOR 2005 - 9th International Chemical Engineering Conference – Full Papers in CD-ROM (ISBN: 972-8055-13-7), Departamento de Engenharia Química da Universidade de Coimbra, 6 pp., QL078, 2005.
  79. F. D. S. Larotonda, L. Hilliou, A. M. C. Sereno, M. P. Gonçalves. (2005). Green edible films obtained from starch-domestic carrageenan mixtures. ENPROMER 2005 proceedings, CD-ROM Book, paper nº1112, 14-18th August 2005, Rio de Janeiro, Brasil.
  80. L. Hilliou, F.D.S Larotonda, P. Abreu, A.M Ramos, A.M Sereno, M.P. Gonçalves. (2005). Chemical and physical characterization of biopolymers extracted from Portuguese carrageenophyte seaweeds". ENPROMER 2005 proceedings, CD-ROM Book, paper nº1114, 14-18th August 2005, Rio de Janeiro, Brasil.
  81. L. Hilliou, P. Abreu, A.M. Ramos, A.M. Sereno and M.P. Gonçalves. (2004). Viscoelastic characterization of carrageenan solutions and gels obtained from Portuguese seaweeds. IBEREO 2004-Iberia Rheology Meeting, Beja (Portugal) September 2004. Full papers in "Progress in Rheology of biological and synthetic polymer systems", ISBN 972-99301-0-4. AC Diogo, NB Alvarenga, J Canada, S FerroPalma and J. Dias editors.
  82. C. Klein, L. Hilliou, M. Wilhelm. (2003). Characterisation of model dispersions by Fourier Transform Rheology. Proceedings of the 3rd International Symposium on Food Rheology and Structure 1, p 449. 9-13 February 2003, Zurich, Switzerland.
  83. Hilliou, L., Feio, A. G., Martins, A. F., Barmatov, E. And Shibaev, V. P. (2001). Reorientation of a side-chain nematic polymer under a magnetic field: a <sup>2</sup>H NMR study. AMPERE 2000 Proceedings, CD-ROM book (ISBN 972-98802-0-4), Ed. by A.F. Martins, A.G. Feio and J.G. Moura, FCT-UNL, Lisbon, pp. 64-67.

### **5.e. Invited talks**



1. L. Hilliou, L.M.B. Costa, H.M.R.D. Silva. "Non linear rheology of modified bitumen with recycled plastics". Invited lecture, 12 November 2014, School of Chemical Sciences, The University of Auckland, New Zealand.
2. L. Hilliou. "Biopolymers and creation of structure". Keynote Lecture, XII Encontro de Química dos alimentos, 10-12 September 2014, Lisbon, Portugal.
3. L. Hilliou. "Rheology of bitumen and modified bitumen: beyond viscosity and elasticity". Invited talk to the Workshop "Rheology of bitumen and bitumen-based systems", 12-13 December 2013, School of Chemical Sciences, The University of Auckland, New Zealand.
4. L. Hilliou. "Development of polyhydroxyalkanoate composites based on food industry by-products for compostable packaging", invited keynote lecture at the International Workshop 'Ecosustainable Food Packaging: the Industrial Challenges', Food and Agriculture COST Action FA0904, Institute Polytechnic Leiria, July 2013, Portugal.
5. L. Hilliou. "Large deformation rheology". Invited talk to the Rheology Workshop: Principles and Applications of Linear and Nonlinear Viscoelasticity, 5-6 December 2012, School of Chemical Sciences, The University of Auckland, New Zealand
6. L. Hilliou and J.A. Covas. "A bird's eye view of Rheometry". Invited talk to the JNCM 2012 - 1as Jornadas Nacionais de Caracterização de Materiais, Sept. 2012, Caparica, Portugal.
7. L. Hilliou. "Shaping PHA into films for packaging: the importance of rheological properties". Invited talk to the 4th Workshop on Polyhydroxyalkanoate Production by Mixed Microbial Cultures", Oct. 2012, Roma, Italia.
8. L. Hilliou. "Introduction to Rheo-optics: Flow Induced Birefringence, Dichroism, Optical Microscopy, and Small Angle Light Scattering". Invited talk to the III FLAD I US - PORTUGAL INTERNATIONAL WORKSHOP RheoProcessing 2008 – Multiscale Rheology and Polymer Processing, 12 - 14 June 2008, University of Minho, Guimarães, Portugal.

#### **5.f. Oral communications in international conferences**

9. L. Hilliou, P. Teixeira, D. Machado, J.A. Covas, C.S.S. Oliveira, A. Gouveia, M.A.M. Reis. Effects of residues on the degradation of PHA produced from mixed microbial cultures and processed in extrusion. ESBP 2015, 8<sup>th</sup> European Symposium on Biopolymers, Roma, Italy, September 2015.
10. L. Hilliou, P. Teixeira, J.A. Covas. In-line rheo-optical characterization during small-scale polymer processing and compounding. IBEREO 2015, Challenges in rheology and product development, Coimbra, Portugal, September 2015.
11. L. Hilliou, D. Machado, J.A. Covas, C.S.S. Oliveira, A.F. Duque, M.A.M. Reis, S. Campanari, M. Villano, M. Majone. Impact of fermentation residues on the rheological and structural properties of PHBV produced from cheese whey and olive mills wastewaters. XIV Latin American Symposium on Polymers and XII Ibero American Congress on Polymers, Porto de Galinhas, Brazil, October 2014.
12. M. Cunha, C.S.S. Oliveira, A.F. Duque, M.A.M. Reis, S. Campanari, M. Villano, M. Majone, J.A. Covas, L. Hilliou. PHA obtained from mixed microbial cultures fed with food industry by-products: thermorheological characteristics and benchmarking with commercial PHA. AERC 2014-9<sup>th</sup> Annual European Rheology Conference, Karlsruhe, Germany, April 2014.
13. M. Cunha, M-A. Berthet, J.A. Covas, A.A. Vicente, L. Hilliou. PHBV/Beer spent grain fibres composites for food packaging: processability and film properties. POLYMAR 2013-1<sup>st</sup> International Conference in Polymers with Special Focus in Early Stage Researchers, Barcelona, Spain, November 2013.
14. E. Cunha, H. Nunes, L. Hilliou, M. Conceição Paiva, J. Covas. Dispersion of carbon nanotubes and exfoliated graphite nanoplatelets in polypropylene. CNPComp2013, 6<sup>th</sup> International Conference on Carbon NanoParticle Based Composites, Dresden, Germany, September 2013

15. G. Azevedo, G. Feio, I. Sousa-Pinto L. Hilliou. Does aquaculture of *Mastocarpus stellatus* in an IMTA impact on the chemical and rheological properties of extracted carrageenans? EPNOE 2013, Nice, France, October 2013.
16. G. Azevedo, G. Bernardo, L. Hilliou. Phase diagrams of kappa/iota-hybrid carrageenans: the role of chemical structure and type of salt. Ibero 2013, Iberian Meeting on Rheology, Malaga, Spain, September 2013.
17. P.F. Teixeira, L. Hilliou, J.A. Covas, J.M. Maia. In-line optical characterization during extrusion of polymer blends. Ibero 2013, Iberian Meeting on Rheology, Malaga, Spain, September 2013.
18. P.F. Teixeira, S.N. Fernandes, J. Canejo, M.H. Godinho, C. Leal, L. Hilliou. When Liquid crystalline cellulose flows and relaxes. Ibero 2013, Iberian Meeting on Rheology, Malaga, Spain, September 2013.
19. A. Rodrigues, L. Hilliou, J.C. Viana, D.G. Bucknall, G. Bernardo. Solid state processing of conjugated polymer systems. 11<sup>th</sup> International Symposium on Functional pi-Electrons Systems, Arcachon, France, June 2013.
20. L. Hilliou, G. Azevedo, G. Bernardo, I. Sousa-Pinto. "Identifying relationships between the chemical structure and the rheological properties of kappa/iota hybrid carrageenans ". ICR 2012, International Congress on Rheology, Lisbon, Portugal, August 2012.
21. L. Hilliou, G. Azevedo, G. Bernardo, G feio, I. Sousa-Pinto. "Alkali-extracted hybrid carrageenans from *Mastocarpus stellatus* seaweeds grown in an IMTA: A palette of gelling properties" ISFRS 2012, Zurich, Switzerland, April 2012.
22. G. Azevedo, L. Hilliou, I. Sousa-Pinto. "NaOH treatment of *Mastocarpus stellatus* seaweeds: impact on the gel properties of extracted polysaccharides". IBEREO 2011, Lisbon, Portugal, September 2011.
23. L. Hilliou, M. Wilhelm, M.P. Gonçalves. "Interplay between microstructure and mechanical properties in carrageenan gels in NaCl salt and in gelatin gels". ISFRS 2009 – 5th International International Symposium on Food Rheology and Structure, Zurich, Switzerland, June 2009.
24. V.D. Alves, F. Freitas, F.D.S. Larotonda, L. Hilliou, N. Costa, I.M. Coelho, R. Oliveira, M.A.M. Reis. "Biodegradable films from a galactose-rich polysaccharide produced by a *Pseudomonas* strain from glycerol". BIOPOL 2007 – 1st International Conference on Biodegradable Polymers and Sustainable Composites, Alicante, Spain, October 2007.
25. V. D. Alves, L. Hilliou, F. D. S. Larotonda, M. P. Gonçalves, A. M. Sereno, I. M. Coelho. "Biodegradable composite films for food packaging". BIOPOL 2007- 1st International conference on biodegradable polymers and sustainable composites , Alicante (Spain), October 2007.
26. V. Alves, N. Costa, L. Hilliou, F.D.S. Larotonda, M.P. Gonçalves, A.M. Sereno, I. Coelho. "Biodegradable composite films from polysaccharides for food packaging". PERMEA 2007- Membrane Science and Technology Conference of Visegrad Countries, Siofok (Hungary), September 2007.
27. V. Alves, N. Costa, L. Hilliou, F.D.S. Larotonda, M.P. Gonçalves, A.M. Sereno, I. Coelho. "Enhancing barrier properties of polysaccharide films using mica particles". New materials for membranes, Geesthacht (Germany), June 2007.
28. F.D.S Larotonda, L. Hilliou, M.P. Gonçalves, A.M. Sereno. "Film properties of k/i-hybrid carrageenan natural polymer". PPS-23 - The polymer Processing Society 23rd Annual Meeting, Salvador, Brazil, May 2007.
29. F.D.S Larotonda, L. Hilliou, M.P. Gonçalves, A.M. Sereno. "Rheological properties of k/i-hybrid carrageenan solutions for edible film production". AERC 2007 – 4th Annual European Rheology Conference, Naples, Italy, April 2007.

30. F.D.S Larotonda, L. Hilliou, M.P. Gonçalves, A.M. Sereno. "Production and characterization of biodegradable films based on starch-carrageenan mixture". *Materials 2007-IV International Material Symposium, Porto, Portugal, April 2007.*
31. A. Sousa, S. Martins, F.D.S Larotonda, L. Hilliou, M.P. Gonçalves, A.M. Sereno. "Biodegradable polymers extracted from Sargaço: film properties and application to edible coating". *Materials 2007-IV International Material Symposium, Porto, Portugal, April 2007.*
32. V. Alves; N. Costa; L. Hilliou; F. Larotonda; M. P. Gonçalves; A. Sereno; I. Coelho. "Design of biodegradable composite films for food packaging". *EUROMEMBRANE 2006, Messina, Italy, September 2006.*
33. L. Hilliou, M. Wilhelm and M.P. Gonçalves. "Microstructural investigation of carrageenan gels using Fourier Transform Rheology". *AERC 2006 – 3rd Annual European Rheology Conference, Hersonisos, Crete, Greece, April 2006.*
34. L. Hilliou, M.P. Gonçalves. "Gelling properties of a  $\kappa$ /ves,"Viscoelastic characterization of carrageenan solutions and gels obtained from Portuguese seaweeds". *IBEREO 2004-Iberia Rheology Meeting, Beja (Portugal) September 2004.*
35. L. Hilliou, D. Vlassopoulos, S. Pispas, N. Hadjichristidis. "Coupling of stress and concentration fluctuations in polymer solutions: shear thickening, flow induced structures and instabilities". *Annual European Rheology Conference 2003, Guimarães, Portugal, September 2003.*
36. L. Hilliou, D. Vlassopoulos, and M. Rehahn. "Structural Rearrangements in Hairy-Rod Polymers Under Shear". *Europhysics Conference on Macromolecular Physics, Eurorheo 99-1, "Rheology, Rheo-Physics and Flow-Induced Structures of Liquid Crystalline Polymers, Surfactants and Block Copolymers", Sophie-Antipolis, France, May 1999.*
37. D. Vlassopoulos, and L. Hilliou. "Interplay of Structure and Dynamics in Soft Materials". *Time Evolution of Soft Condensed Matter under Flow, EU COST P1-5 Workshop, Leuven, Belgium, January 1999.*
38. D. Vlassopoulos, G. Petekidis, L. Hilliou, G. Fytas, R. Rulken, and G. Wegner. "Dynamics and Rheology of Hairy-Rod Polymers". *70th Annual Meeting of the Society of Rheology, Monterey, CA, October 1998.*
39. L. Hilliou, and D. Vlassopoulos. "Shear-Induced Structural Changes in Hairy-Rod Polymer Solutions". *2nd Meeting of the Hellenic Society of Rheology and International Symposium, Heraklion, Crete, Greece, August-September 1998.*
40. P. Stein, L. Hilliou, P. Martinoty, N. Assfalg, I. Kundler, H. Finkelman. "Propriétés mécaniques d'élastomères cristaux liquides monodomains et polydomains ». *8ième Colloque d'expression française sur les cristaux liquides, Saint Valery sur Somme, France, September 1997.*
41. J.J. Zanna, M. Mauzac, J.P. Parneix, L. Hilliou, P. Martinoty. "Synthèse et étude du comportement dynamique d'élastomères cristaux liquides en peigne». *8ième Colloque d'expression française sur les cristaux liquides, Saint Valery sur Somme, France, September 1997.*
42. L. Hilliou, P. Martinoty, M. Mauzac. "Propriétés dynamiques des polymères mésomorphes à chaînes latérales : un comportement de gel en formation». *8ième Colloque d'expression française sur les cristaux liquides, Saint Valery sur Somme, France, September 1997.*

### **5.g. Coordination of scientific projects**

2012-2015 *PTDC/AGR-ALI/122741/2010: **PACK4COMPOST**: exploring new bioplastics, fillers, formulations and film processing routes to produce high added value compostable food packaging.*

- Funding: 169.650,00€ (Portuguese Foundation for Science and Technology).
- 2010-2013 *PTDC/CTM/100076/2008: Unraveling the interplay between the microstructure and the mechanical properties in kappa/iota-hybrid carrageenan gels.*
- Funding: 165.000,00€ (Portuguese Foundation for Science and Technology).
- 2005-2008 *POCTI/EQU/58064/2004; COMFOOD: controlling the microstructure of food products by rheo-optical methods.*
- Funding: 67.500,00€ (Portuguese Foundation for Science and Technology).
- 2006-2007 Proc. 4. 1.1/DAAD 00674: *Portuguese-German GRICES-DAAD cooperation agreement for the project "Characterization of biopolymer mixtures for food applications".*
- Funding: 3.000,00€.

#### **5.h. Research team member in scientific projects**

- 2012-2015 *PTDC/CTM-POL/120843/2010 Effects of pressure induced mixing and crystallization in polymer materials for photovoltaic cells.*
- Funding for the member institute: 96.140,00€ (Portuguese Foundation for Science and Technology).
- 2012-2015 *PTDC/ECM/119179/2010 PLASTIROADS - Development of multifunctional materials with plastic wastes for road paving.*
- Funding for the member institute: 113.592,00€ (Portuguese Foundation for Science and Technology).
- 2011-2014 *FP7-KBBE-2010-4-265669 ECOBIOCAP-Ecoefficient Biodegradable Composite Advanced Packaging.*
- Funding for the member institute: 308.155,00€ (7th Framework Programme of the EU).
- 2010-2013 *PTDC/CTM/099595/2008 Stimuli-Responsive Cellulose Membranes built from Micro and Nano Helicoidal Fibers for Blood and Tissue Oxigenation.*
- Funding for the member institute: 24.495,00€ (Portuguese Foundation for Science and Technology).
- 2008-2009 *Ações integradas Luso-Espanholas Nº E-30/08 - Production and characterization of biofilms obtained from domestic starches and carrageenans for food and non food applications.*
- 2005-2008 *POCTI/BIO/55789/2004 Tailored synthesis of biopolymers by mixed microbial cultures from molasses.*
- Funding for the member institute: 15.934,00€ (Portuguese Foundation for Science and Technology).
- 2003-2007 *POCTI/EQU/45595/2002 Technology to obtain edible films and coatings for food from low value national resources.*
- Funding for the member institute: 30.000,00€ (Portuguese Foundation for Science and Technology).

#### **5.i. Scientific impact**

The following indicators reflect the scientific impact of my scientific research:

- i) Regular Reviewing of papers for over 15 scientific journals in scientific areas such as polymer science, food engineering, biotechnology and civil engineering (see section 7.a.).

- ii) Member of the “Advisory Board” of Applied Rheology (since 1999).
- iii) Member of the scientific committee of the following international conferences: ESBP 2015 (8<sup>th</sup> European Symposium on Biopolymers), POLYMAR 2013 (1st International Conference in Polymers with special Focus in Early Stage Researchers).
- iv) Invitation to lecture various papers on rheology and soft matter topics at the University of Minho (Portugal), University of Santiago de Compostela (Spain) and University of São Paulo (Brazil), see section 7.f. below.
- v) Elected member of the board of the Portuguese Society of Rheology (2011-2014).

## **6. Supervision**

### **6.a. Master students**

- |      |   |
|------|---|
| 2012 | Febin Cyriac, Erasmus Mundus Master Thesis EURHEO – European Masters in Engineering Rheology. Title: "Correlation between Mechanical Non-Linearity in LAOS and Instabilities in Extrusion for Industrial Polyethylene", University of Minho, 2012.                |
| 2011 | Nuno João Teixeira Monteiro, co-orientation Master in Civil Engineering. Title: "Caracterização Avançada de Ligantes Betuminosos ", University of Minho, 2011.  |
| 2011 | Daniel Andrés Laguado Escobar, Erasmus Mundus Master Thesis EURHEO – European Masters in Engineering Rheology. Title: " Utilization of birefringence and dichroism for the Off-line and In-line monitoring of polymer film extrusion", university of Minho, 2011. |
| 2011 | Fang Liu, Erasmus Mundus Master Thesis EURHEO – European Masters in Engineering Rheology. Title: " Screening of Commercial Starches for Textile Coating Applications ", University of Minho, 2011.  |
| 2011 | Zenamarkos Bantie Sendekie, Erasmus Mundus Master Thesis EURHEO – European Masters in Engineering Rheology. Title: "Filament extrusion of acetoxypopyl cellulose (APC) melt ", University of Minho, 2011.   |
| 2010 | Sirikul Thephtong, Erasmus Mundus Master Thesis EURHEO – European Masters in Engineering Rheology. Title: "In-line Rheo-optical characterization of complex fluids", University of Minho, 2010.   |
| 2010 | Nuno António Arantes Peixoto, co-orientation Master in Civil Engineering. Title: "Avaliação da Eficácia da Aplicação de Diferentes Tipos de Rejuvenescedores em Ligantes Betuminosos Envelhecidos ", University of Minho, 2010.                                   |
| 2010 | Safa Jamali, Erasmus Mundus Master Thesis EURHEO – European Masters in Engineering Rheology. Title: "Effect of thermomechanical history on final properties of carbon nanotube-polymer composites", University of Minho, 2010.                                    |

### **6.b. Others**

- |             |   |
|-------------|---|
| 2012 - 2013 | Supervision of Mara Cunha, in the frame of a post-graduate grant for project PACK4COMPOST (PTDC/AGR-ALI/122741/2010). |
| 2011- 2013  | Supervision of Gabriela Azevedo in the frame of a post-graduate grant for project PTDC/CTM/100076/2008.               |

- 2012 Supervision of Rosália Ferreira Santos in the frame of the 3 months Laboratory project of the Bachelor in Chemistry, University of Minho. Title of project: "Efeito da variação química da alga sobre a química e a reologia da carragenina extraída".
- 2011 Co-supervision of Mara Cunha, in the frame of a post-graduate grant for project "HybridSolar" with funding from the I3N: Institute for nanostructures, nanomodelling and nanofabrication.
- 2007-2008 Supervision of Dr. Ronald D. Villanueva, in the frame of a post-doctoral grant nº SFRH/BPD/34670/2007.
- 2006-2007 Supervision of Ana Isabel Campos Rodrigues, in the frame of the practice project of the Highschool of Biotechnology of the Universidade Católica. Title of the project: "Caracterização física e química dos biopolímeros extraídos das algas da costa Portuguesa".

## **7. Outreach**

### **7.a. Reviewing**

- 2004 - 2015 Regular reviewing of papers for journals such Biomacromolecules, Carbohydrate Polymers, Fuel, International Polymer Processing, Macromolecular Materials and Engineering, Rheologica Acta, Soft Matter, New Biotechnology, Industrial Crops and Products, Trends in Food Science and Technology, Food Hydrocolloids, Journal of Agricultural Food and Chemistry, Food Research International, Journal of Dairy Science, International Journal of Food Science and Technology, International Journal of Food Properties, Journal of Food Process Engineering, etc.
- 2014 Chairman of a session of symposium "Biopolymers, Active Fluids and Food Rheology" at the 9th Annual European Rheology Conference, April 2014, Karlsruhe, Germany
- 2013 Chairman of a session at the EPNOE 2013 conference – Polysaccharides and Polysaccharide-derived Products, from basic science to applications, Nice, France, October 2013.
- 2013 Chairman of a session at the ESBP 2013 conference – European Symposium on Biopolymers, Lisbon, Portugal, October 2013.
- 2012 Chairman of the session "Advanced Experimental Methods" at the International Congress on Rheology-ICR 2012, Lisbon, Portugal, August 2012
- 1999 - 2015 Member of the Editorial Board of Applied Rheology ([www.AR.ethz.ch/](http://www.AR.ethz.ch/)) – "a comprehensive journal for the study and characterization of the flow of complex and technologically important materials".
- 2004-2015 Member of the scientific committee of the following international conferences: ESBP 2015 (8<sup>th</sup> European Symposium on Biopolymers), POLYMAR 2013 (1st International Conference in Polymers with special Focus in Early Stage Researchers). Invitation to lecture various papers on rheology and soft matter topics at the University of Minho (Portugal), University of Santiago de Compostela (Spain) and University of São Paulo (Brazil).
- 2011-2014 Elected member of the board of the Portuguese Society of Rheology (2011-2014).

**7.b. Know how transfer**

- 2002-2003 Consulting for and technology transfer to BASF.
- 2001-2002 Technology transfer (“Fourier transform Rheology”) to ARKEMA (subsidiary of TOTAL).

**7.c. Participation in panels of evaluation**

- 2015 Appointed member of the Scientific Evaluation Panel in the Domain of Graphene Flagship, FLAG-ERA Joint Transnational Call 2015.
- 2011 Reviewing and arguing of the doctoral thesis of Maria Dolores Torres Pérez, Universidade de Santiago de Compostela (Spain). PhD thesis: “Thermorheological characterization of gluten-free doughs from chestnut flour”.
- 2010 Reviewing and arguing of the doctoral thesis of Claudia A. Silva Branco, Universidade de Santiago de Compostela (Spain). PhD thesis: “Caracterización reológica de hidrocoloides alimentarios: goma guar, goma tragacanto, metilcelulosa y sus mezclas”.

**7.d. Management**

- 2011-2014 Secretary (elected) Of the Portuguese Society of Rheology (<http://www.spr-reologia.com/>).
- 2012 Member of the electing committee for the election of the Director of the Institute for Polymers and Composites, University of Minho, Portugal.
- 2010 - 2013 Member of the Scientific Council oh the Department of Polymer Engineering, University of Minho, Portugal.
- 2009 - 2013 Member of the Scientific Commission of the Institute for Polymers and Composites, University of Minho, Portugal.
- 2009 - 2013 Scientist in charge of the Laboratory of Rheology at the institute for Polymers and Composites, University of Minho, Portugal.

**7.e. Lecturing**

- 20013-2014 Paper in Material Science (40 hours), as a common branch module of the 2<sup>nd</sup> year of the Erasmus Mundus Master Course EURHEO: Masters in Engineering Rheology ([www.eurheo.eu](http://www.eurheo.eu)), Department of Polymer Engineering, University of Minho, Portugal.
- 2009-2014 Rheology module (45 hours) of the 1<sup>st</sup> year of the Erasmus Mundus Master Course EURHEO: Masters in Engineering Rheology ([www.eurheo.eu](http://www.eurheo.eu)), Department of Polymer Engineering, University of Minho, Portugal.
- 2009-2014 Rheology module (45 hours) of the “Mestrado em Propriedades e Tecnologia de Polímeros”, 4th and 5th year graduation, Department of Polymer Engineering, University of Minho, Portugal.
- 2013 Invited Professor at the Faculty of Zootecnia and Food Engineering of the Universidade de São Paulo to deliver a full curriculum (40 hours) “Tópicos de Reologia” of the post-graduation programme in Materials Science and Engineering,

Doctoral and Master programmes in Characterization and Application of Materials in the Agro-industry.

2007 - 2012 Invited lectures (10 hours) on “Introduction to the rheology of complex fluids” in the PhD programme of the Escuela Tecnica Superior de Ingenieria de la Universidad de Santiago de Compostela, Spain.

Porto, September 29th 2015.

A handwritten signature in blue ink, consisting of several overlapping loops and a long horizontal stroke extending to the right.

Loïc Hilliou