

Curriculum Vitae (summary)

Last update: 15.05.2020

Paulo Jorge Tavares Ferreira

Chemical Engineering Department, Faculty of Sciences and Technology - University of Coimbra (UC)

Assistant Professor with Habilitation

Exclusiveness and Full time

Birthplace: Beira – Mozambique (05.10.1963)

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URL: http://www.uc.pt/fctuc/deg/pessoas/docentes/paulo_ferreira

ORCID ID: 0000-0002-4503-6811

Researcher ID: H-9492-2013

Scopus ID: 16309710800

H-factor: 19 (web-of-science)

Citations (web-of-science): 910

Academic degrees:

1. 1987, Graduation, Chemical Engineering, Faculty of Sciences and Technology - University of Coimbra, 15 (out of 20)
2. 1992, Exam of Pedagogical Aptitude and Scientific Capacity Chemical Engineering, Faculty of Sciences and Technology - University of Coimbra, Very Good
3. 2000, Ph.D., Chemical Engineering / Specialty in Chemical Processes, University of Coimbra, Approved by unanimity
4. 2019, Habilitation at the University of Coimbra

Scientific Interests:

- Analysis, characterization, modification / functionalization of fibers, pulp, papers, fillers and pigments;
- Paper surface treatments (sizing and coating) and evaluation of printability in inkjet and offset printing processes (ink-paper interaction);
- Production, characterization and application of micro- and nanocelluloses in “papermaking”, used in the matrix and on the surface;
- Functionalization of cellulose and its derivatives for new applications;
- Flocculation and retention in “papermaking”.
- Sustainable use of bioresources and sustainable materials and technologies

Experience as Supervisor:

PhD. Thesis:

- In progress - 3

1. New retention agents by cationization of cellulosic materials, Jorge Filipe Silva Pedrosa, BDE - Doctoral thesis with the industry (TheNavigatorCompany) (co-supervisor, 2018-2021)

2. Microfibrilated cellulose as reinforcing agent and new surface coating formulations, Mohit Sharma, BDE - Doctoral thesis with the industry (TheNavigatorCompany) (co-supervisor, 2018-2021)
 3. E. globulus based formable papers, Cátia Andreia Alves Almeida, BDE - Doctoral thesis with the industry (TheNavigatorCompany) (co-supervisor, 2018-2021).
 4. Nonwoven fiber network structures with functionalized Eucalyptus fibers, Anabela Silva Santos BDE - Doctoral thesis with the industry (TheNavigatorCompany) (co-supervisor, 2018-2021).
- Concluded – 3:
 1. Physico-chemical interactions on paper surface – impact on the printability of E. globulus based kraft papers, Isabel Maria Teixeira Moutinho (FCT grant holder – SFRH/BD/18197/2004)
 2. Hot water pre-extraction of hardwoods: impact of processing on extract and pulp properties, Gustavo Vieira Gonçalves Pacheco Duarte (FCT grant holder– SFRH/BD/18193/2004) at the State University of New York (2005-2010).
 3. Improvement of functional properties of different paper grades through the use of cellulose nanofibrils, Ana Filipa Martins Lourenço, BDE - Doctoral thesis with the industry (TheNavigatorCompany) (co-supervisor, 2015-2020)
 - With FCT funding but not started because the grant holders chose other job opportunities before beginning the PhD. Work – 2

MSc Thesis:

- **In progress – 3**
- Concluded – 27

Professional Training Courses, Research Scholarships (BIC), Post-Graduate training in cooperation with the industry: 9

Participation in R&D Projects

- Total – 24
- As PI /PI at UC – 18

	PI		PI at UC		Team member	
	Nº	€	Nº	€	Nº	€
Public funding	1	71.223,00	7	1.841.151,71	11**	1.278.102,73
Private funding	5	24.375,00*				

On-going projects:

1. Innovative Products and Technologies from Eucalyptus. (Project SI I&DT 07/SI/2015, 21874, period 2017-2021, budget at UC: 2.157.868,65€) (PI at UC);
2. Shellution – Optimization of product properties by the incorporation of biogenic calcium carbonate (egg shell) (Project 03/SI/2017/I&DT, POCI-01-0247-FEDER-033657, period 2018-2020, budget at UC: 29.658,50€)
3. ToxApp4NanoCELF: A predictive toxicology approach to characterize potential respiratory effects

of functionalized nanocellulose fibers in a co-culture system (Project FCT – PTDC 2017 - 02/SAU-PUB/2017/IC&DT 3258, period 2018, 2021, budget at UC: 15 364,75€)(PI at UC)

4. MATIS - Sustainable Industrial Materials and Technologies (Project CENTRO-01-0145-FEDER-000014, period .2017-2020
5. FilCNF: New generation of composite films of cellulose nanofibrils with mineral particles as high strength materials with gas barrier properties (Project FCT – PTDC 2017 – 02/SAICT/2017/ IC&DT 31884, period 2018-2021, budget at UC: 142.091,30€)

Publications:

Papers in SCI journals (70)

- P.1. Ferreira, P. J., Rasteiro, M. G., Figueiredo, M. M. (1993). Influence of shape on particle size analysis. *Particulate Science and Technology*, 11 (3-4), 199-206.
doi: ---
URL: <http://hdl.handle.net/10316/13418>
- P.2. Ferreira, P. J., Rasteiro, M. G., Figueiredo, M. M. (1994). A new approach to measuring solids concentration in mixing tanks. *Advanced Powder Technology*, 5 (1), 15-24.
doi: 10.1016/S0921-8831(08)60621-4
URL: <http://hdl.handle.net/10316/13395>
- P.3. Barreiros, F. M., Ferreira, P. J., Figueiredo, M. M. (1996). Calculating shape factors from particle sizing data. *Particle & Particle Systems Characterization*, 13(6), 368-373.
doi: 10.1002/ppsc.19960130607
URL: <http://hdl.handle.net/10316/8196>
- P.4. Carvalho, M. G., Ferreira, P. J., Martins, A. A., Figueiredo, M. M. (1997). A comparative study of two automated techniques for measuring fiber length. *Tappi Journal*, 80 (2),137-142.
doi: ---
URL: <http://hdl.handle.net/10316/13396>
- P.5. Ferreira, P. J., Matos, S., Figueiredo, M. M. (1999). Size characterisation of fibres and fines in hardwood kraft pulps. *Particle & Particle Systems Characterization*, 16(1) 20-24.
doi: 10.1002/(SICI)1521-4117(199905)16:1<20::AID-PPSC20>3.0.CO;2-M
URL: <http://hdl.handle.net/10316/8194>
- P.6. Ferreira, P. J., Martins, A. A., Figueiredo M. M. (2000). Primary and secondary fines from Eucalyptus globulus kraft pulps. Characterisation and influence, *Paperi Ja Puu - Paper and Timber*, 82(6), 403-408.
doi: ---
URL: <http://hdl.handle.net/10316/13417>
- P.7. Carvalho, M. G., Ferreira, P. J., Figueiredo, M. M. (2000). Cellulose depolymerization and paper properties in E. globulus kraft pulps. *Cellulose*, 7(4): 359-368.
doi: 10.1023/A:1009293924205
URL: <http://hdl.handle.net/10316/7668>
- P.8. Carvalho, M. G., Ferreira, P. J., Santos, J. M. R. C. A., Amaral, J. L., Figueiredo, M. M. (2005). Effect of extended cooking and oxygen pré-bleaching on the surface energy of *Eucalyptus globulus* kraft pulps. *Journal of Pulp and Paper Science*, 31(2), 90-94.
doi: ---
URL: <http://hdl.handle.net/10316/15603>
- P.9. Ferreira, P., Velho, J., Figueiredo, M., Mendes, A. (2005). Effect of thermal treatment on the structure of PCC particles. *Tappi Journal*, 4(11), 18-22.
doi: ---
URL: <http://hdl.handle.net/10316/13397>
- P.10. Moura, M. J., Ferreira, P. J., Figueiredo, M. M. (2005). Mercury intrusion porosimetry in pulp and paper technology. *Powder Technology*, 160(2), 61-66.
doi: 10.1016/j.powtec.2005.08.033
URL: <http://hdl.handle.net/10316/3797>
- P.11. Moutinho, I., Figueiredo, M., Ferreira, P. (2007). Evaluating the surface energy of laboratory paper sheets by contact angle measurements. *Tappi Journal* 6(6), 26-32.
doi: ---
URL: <http://hdl.handle.net/10316/13398>
- P.12. Ventura, C., Blanco, A., Negro, C., Ferreira, P., Garcia, F., Rasteiro, M. (2007). Modelling

- pulp fibre suspensions rheology. *Tappi Journal* 6(7), 17-23.
doi: ---
URL: <http://hdl.handle.net/10316/13400>
- P.13. Moutinho, I. M. T., Ferreira, P. J. T., Figueiredo, M. L. (2007). Impact of surface sizing on inkjet printing quality. *Industrial & Engineering Chemistry Research*. 46(19), 6183-6188.
doi: 10.1021/ie070356k
URL: <http://hdl.handle.net/10316/15600>
- P.14. Rasteiro, M. G., Garcia, F. A. P., Ferreira, P., Blanco, A., Negro, C., Antunes, E. (2008). Evaluation of flocs resistance and reflocculation capacity using the LDS technique. *Powder Technology*, 183, 231-238.
doi: 10.1016/j.powtec.2007.07.024
URL: <http://hdl.handle.net/10316/3773>
- P.15. Ventura, C., Garcia, F., Ferreira, P., Rasteiro, M. (2008). Flow dynamics of pulp fibre suspensions. *Tappi Journal* 7(8), 20-26.
doi: ---
URL: <http://hdl.handle.net/10316/13399>
- P.16. Rasteiro, M. G., Garcia, F.A.P. Ferreira, P., Blanco, A., Negro, C., Antunes, E. (2008). The use of LDS as a tool to evaluate flocculation mechanisms. *Chemical Engineering and Processing*, 47(8): 1329-1338.
doi: 10.1016/j.cep.2007.04.009
URL: <http://hdl.handle.net/10316/15586>
- P.17. E. Antunes, F. A. P. Garcia, P. Ferreira, A. Blanco, C. Negro and M. G. Rasteiro (2008). Effect of Water Cationic Content on flocculation, flocs resistance and reflocculation capacity of PCC induced by polyelectrolytes. *Industrial & Engineering Chemistry Research*, 47(16), 6006-6013.
doi: 10.1021/ie800326z
URL: <http://hdl.handle.net/10316/15601>
- P.18. Rasteiro, M. G., Garcia, F. A. P., Ferreira, P., Antunes, E. (2008). Flocculation of PCC filler in papermaking: influence of the particle characteristics. *Chemical Engineering Research and Design*, 86, 1155-1160.
doi: 10.1016/j.cherd.2008.04.004
URL: <http://hdl.handle.net/10316/13405>
- P.19. Antunes, E., Garcia, F.A.P., Ferreira, P., Blanco, A., Negro, C., Rasteiro, M. G. (2008). Use of new branched polyacrylamides to improve retention and drainage in papermaking. *Industrial & Engineering Chemistry Research*, 47(23), 9370-9375.
doi: 10.1021/ie801216t
URL: <http://hdl.handle.net/10316/10525>
- P.20. Ferreira, P. J., Gamelas, J. A., Moutinho, I. M., Ferreira, A. G., Gómez, N., Molleda, C., Figueiredo M. M. (2009). Application of FT-IR-ATR to evaluate the penetration of surface sizing agents into the paper structure, *Industrial & Engineering Chemistry Research*, 48(8), 3867–3872.
doi: 10.1021/ie801765c
URL: <http://hdl.handle.net/10316/10337>
- P.21. Moutinho, I. M. T., Kleen, A. M., Figueiredo, M. M. L., Ferreira, P. J. T. (2009). Effect of surface sizing on the surface chemistry of Eucalyptus containing paper. *Holzforschung*, 63(3), 282-289.
doi: 10.1515/HF.2009.046
URL: <http://hdl.handle.net/10316/13404>
- P.22. Loureiro, P. E. G. Ferreira, P. J., Evtugin, D. V., Carvalho, M. G. S. V. (2009). Effect of the Final ECF Bleaching Stage on Eucalyptus Kraft Pulp Properties – a Comparison between Hydrogen Peroxide and Chlorine Dioxide, *Pulp & Paper Canada* 110 (9), 23. (Paper apresentado no 2008 International Pulp Bleaching Conference, in Quebec City, Canada, Junho 2-5, 2008; resumo publicado na revista em papel (ISSN 0316-4004) e artigo completo peer-reviewed disponível em www.paptac.ca, com acesso limitado a membros)
URL (resumo): <http://www.paptac.ca/en/publications/technical-papers-back-issues/146-dec-2009-issue>
URL (artigo completo): <http://hdl.handle.net/10316/37906>
- P.23. Antunes, E., Ferreira, P., Rasteiro, M. G., Garcia, F. A. P. (2010). Evaluation of Polyelectrolytes Performance on PCC Flocculation Using the LDS Technique. *Particulate Science and Technology*, 28(5), 426–441.
doi: 10.1080/02726351.2010.504128
URL: <http://hdl.handle.net/10316/37900>
- P.24. Saraiva, M., Gamelas, J. A. F., Mendes de Sousa, A. P., Reis, B. M., Amaral, J. L., Ferreira, P. J. (2010). A New Approach for the Modification of Paper Surface Properties Using Polyoxometalates. *Materials, Special Issue "Polyoxometalate Compounds"*, 3(1), 201-215.
doi: 10.3390/ma3010201

URL: <http://hdl.handle.net/10316/13019>
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- P.25. Moutinho, I., Ihalainen, P., Figueiredo, M., Peltonen, J., Ferreira, P. (2010). Evaluation of the topography of surface sized Eucalyptus based papers. *Industrial & Engineering Chemistry Research*, 49(1), 1-5.
doi: 10.1021/ie900677y
URL: <http://hdl.handle.net/10316/15602>
- P.26. Area, M. C., Carvalho, M. G. V. S., Ferreira, P. J., Felissia, F. E., Barboza, O. M., Bengoechea, D. I. (2010). The influence of pulping and washing conditions on the properties of Eucalyptus grandis unbleached kraft pulps treated with chelants. *Bioresources Technology*, 101, 1877-1884.
doi: 10.1016/j.biortech.2009.10.004
URL: <http://hdl.handle.net/10316/15583>
- P.27. Rasteiro, Fernando. M. G., Garcia, A. P., Ferreira, P. J., Antunes, E., Hunkeler, D., Wandrey, C. (2010). Flocculation by cationic polyelectrolytes: relating efficiency with polymer characteristics. *Journal of Applied Polymer Science*, 116, 3603-36 12.
doi: 10.1002/app.31903
URL: <http://hdl.handle.net/10316/15557>
- P.28. Antunes, E., Garcia, F. A. P., Ferreira, P., Blanco, A., Negro, C., Rasteiro, M. G. (2010). Modelling PCC flocculation by bridging mechanism using population balances: effect of polymer characteristics on flocculation. *Chemical Engineering Science*, 65, 3798-3807.
doi: 10.1016/j.ces.2010.03.020
URL: <http://hdl.handle.net/10316/15589>
- P.29. Costa, T. G., Gamelas, J. A., Moutinho, I. M., Figueiredo, M. M., Ferreira, P. J. (2010). The influence of the paper surface sizing on the inkjet pigment penetration. *Appita Journal*, 63(5), 392-398.
doi: ---
URL: <http://hdl.handle.net/10316/15556>
- P.30. Peterlin, S., Planins`ek, O., Moutinho, I., Ferreira, P., Dolenc, D. (2010). Inverse gas chromatography analysis of spruce fibers with different lignin content. *Cellulose*, 17(6), 1095-1102.
doi: 10.1007/s10570-010-9444-4
URL: <http://hdl.handle.net/10316/15585>
- P.31. Moutinho, I. M. T., Ferreira, P. J. T., Figueiredo, M. L. (2011). Paper surface chemistry as a tool to improve inkjet printing quality. *Bioresources*, 6(4), 4259-4270.
doi:---
URL: <http://hdl.handle.net/10316/16440>
OPEN ACCESS
- P.32. Area, M. C., Felissia, F. E., Carvalho, M. G. V. S., Ferreira, P. J., Barboza, O. M., Bengoechea, D. I. (2011). Characterization of Eucalyptus Grandis Kraft Pulps Treated with Phosphonates in Different Stages of Tcf Bleaching. *Bioresources*, 6(2), 2077-2090.
doi:---
URL: <http://hdl.handle.net/10316/15558>
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- P.33. Mendes, A. H. T., Park, S. W., Ferreira, P. J. T., Almeida, F. S. (2011). Hygroexpansivity Profiles on a Commercial Paper Machine. *Nordic Pulp & Paper Research Journal*, 26(3), 312-318.
doi: 10.3183/NPPRJ-2011-26-03-p312-318
URL: <http://hdl.handle.net/10316/15882>
- P.34. Rasteiro, M. G., Pinheiro, I., Garcia, F. A. P., Ferreira, P., Hunkeler, D. (2011). Using Light Scattering to Screen PEL Performance in Flocculation. *Polymers*, 3, 915-927.
doi: 10.3390/polym3020915
URL: <http://hdl.handle.net/10316/15353>
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- P.35. Chimamkpam, T. O., Rasteiro, M. G., Garcia, F. A. P., Antunes, E., Ferreira, P., Hunkeler, D., Wandrey, C. (2011). Solution viscosity and flocculation characteristics of linear polymeric flocculants in various media. *Chemical Engineering Research and Design*, 89, 1037-1044.
doi: 10.1016/j.cherd.2010.10.022
URL: <http://hdl.handle.net/10316/15590>
- P.36. Gamelas, J. A. F. Lourenço, A. F. Ferreira, P. J. (2011). New modified filler obtained by silica formed by sol-gel method on calcium carbonate. *J. Sol-Gel Sci. Technol.*, 59, 25-31.
doi: 10.1007/s10971-011-2456-1
URL: <http://hdl.handle.net/10316/15599>
- P.37. Ventura, C. A. F., Garcia, F. A. P., Ferreira, P. J., Rasteiro M. G. (2011). Modelling the turbulent flow of pulp suspensions, *Industrial & Engineering Chemistry Research*. 50, 9735-9742.

- doi: 10.1021/ie101500h
URL: <http://hdl.handle.net/10316/15555>
- P.38. Duarte, G. V., Ramarao, B. V., Amidon, T. E., Ferreira, P. T. (2011). Effect of Hot Water Extraction on Hardwood Kraft Pulp fibers (Acer saccharum, Sugar Maple). *Industrial & Engineering Chemistry Research*, 50, 9949-9959.
doi: 10.1021/ie200639u
URL: <http://hdl.handle.net/10316/16416>
- P.39. Duarte, G. V., Gamelas, J. A. F., Ramarao, B.V., Amidon, T. E., Ferreira, P. J. (2012). Properties of Extracted Eucalyptus globulus Kraft Pulps. *Tappi Journal*, 11(4), 47-55.
doi: ---
URL: <http://hdl.handle.net/10316/19959>
- P.40. Ferreira, P. J. T., Gamelas, J. A. F., Carvalho, M. G. S. V., Duarte, G. V., Canhoto, J. M. P. L., Passas, R. (2013). Evaluation of the papermaking potential of Ailanthus Altissima. *Industrial Crops and Products*, 42, 538-542.
doi: 10.1016/j.indcrop.2012.06.030
URL: <http://hdl.handle.net/10316/24554>
- P.41. Gamelas, J. A. F., Duarte, G. V., Ferreira, P. J. (2013). Inverse gas chromatography and XPS of extracted kraft pulps. *Holzsforschung*, 67(3), 273-276.
doi: 10.1515/hf-2012-0126
URL: <http://hdl.handle.net/10316/24553>
- P.42. Pinheiro, I., Ferreira, P. J., Garcia, F. A., Reis, M. S., Pereira, A. C., Wandrey, C., Ahmadloo, H., Amaral, J. L., Hunkeler, D., Rasteiro, M. G. (2013). An Experimental design methodology to evaluate the importance of different parameters on flocculation by polyelectrolytes. *Powder Technology*, 238, 2-13.
doi: 10.1016/j.powtec.2012.08.004
URL: <http://hdl.handle.net/10316/24556>
- P.43. Lourenço, A. F., Gamelas, J. A. F., Zscherneck, C., Ferreira, P. J. (2013). Evaluation of Silica-Coated PCC as New Modified Filler for Papermaking. *Industrial & Engineering Chemistry Research*, 52(14), 5095-5099.
doi: 10.1021/ie3035477
URL: <http://hdl.handle.net/10316/24555>
- P.44. Duarte, G. V., Moreira, R. J., Ramarao, B. V., Ferreira, P. T. (2014). Use of hardwoods in an integrated biorefinery: modelling of the pretreatment process & papermaking potential. *Journal of Biobased Materials and Bioenergy*, 8(6), 594-602.
doi: 10.1166/jbmb.2014.1477
URL: <http://hdl.handle.net/10316/28284>
- P.45. Lourenço, A.F., Gamelas, J.A.F., Ferreira P.J. (2014). Increase of the filler content in papermaking by using a silica-coated PCC filler. *Nordic Pulp & Paper Research Journal*, 29(2), 242-247.
doi: 10.3183/NPPRJ-2014-29-02-p242-245
URL: <http://hdl.handle.net/10316/28016>
- P.46. Gamelas, J. A. F., Lourenço, A. F., Xavier, M., Ferreira, P. J. (2014). Modification of precipitated calcium carbonate with cellulose esters and use as filler in papermaking. *Chemical Engineering Research and Design*, 92, 2425-2430.
doi: 10.1016/j.cherd.2014.02.003
URL: <http://hdl.handle.net/10316/28280>
- P.47. Rasteiro, M. G., Pinheiro, I., Ferreira, P. J., Garcia, F. A., Wandrey, C., Ahmadloo, H., Hunkeler, D. (2015). Correlating aggregates structure with PEL characteristics using an experimental design methodology. Proc. 7th world congress on particle technology - New paradigm of particle science and technology. Book Series: *Procedia Engineering*, Ge W., Han Y., Wang J., Wang L., Liu X., Zhou J., Li J. (Eds), 102 1697-1706.
doi: 10.1016/j.proeng.2015.01.305
URL: <http://hdl.handle.net/10316/30713>
- P.48. Lourenço, A.F., Gamelas, J.A.F., Ferreira, P.J. (2015). Precipitated calcium carbonate modified by the layer-by-layer deposition method - its potential as papermaking filler. *Chemical Engineering Research and Design*, 104, 807-813.
doi:10.1016/j.cherd.2015.10.026
URL: <http://hdl.handle.net/10316/30030>
- P.49. Lourenço, A.F., Gamelas, J.A.F. Sequeira, J., Ferreira, P. J., Velho, J. L. (2015). Improving Paper Mechanical Properties Using Silica-modified Ground Calcium Carbonate as Filler. *Bioresources*, 10(4), 8312-8324.
doi: 10.15376/biores.10.4.8312-8324
URL: <http://hdl.handle.net/10316/30029>

- P.50. Rasteiro, M. G. Pinheiro, I., Ahmadloo, H., Hunkeler, D., Garcia, F. A. P., Ferreira, P., Wandrey, C. (2015). Correlation between flocculation and adsorption of cationic polyacrylamides on precipitated calcium carbonate. *Chemical Engineering Research and Design*, 95, 298–306.
doi:10.1016/j.cherd.2014.11.007
URL: <http://hdl.handle.net/10316/27751>
- P.51. Gamelas, J. A. F., Pedrosa, J., Lourenço, A. F., Ferreira, P. J. (2015). Surface properties of distinct nanofibrillated celluloses assessed by inverse gas chromatography. *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, 469, 36-41.
doi: <http://dx.doi.org/10.1016/j.colsurfa.2014.12.058>
URL: <http://hdl.handle.net/10316/28015>
- P.52. Gamelas, J.A.F., Pedrosa, J., Lourenço, A.F., Mutjé, P., González, I., Chinga-Carrasco, G., Singh, G., Ferreira, P. J. T. (2015). On the morphology of cellulose nanofibrils obtained by TEMPO-mediated oxidation and mechanical treatment. *Micron*, 72, 28-33.
doi: <http://dx.doi.org/10.1016/j.micron.2015.02.003>
URL: <http://hdl.handle.net/10316/28487>
- P.53. Ana F. Lourenço, Rogério S. Simões, Ana P. Costa, José A. F. Gamelas, Paulo J. Ferreira (2016). Papermaking trials in a pilot paper machine with a new silica coated PCC filler, *Nordic Pulp and Paper Research Journal* 31(2), 341-346.
doi: 10.3183/NPPRJ-2016-31-02-p341-346
URL: <http://hdl.handle.net/10316/33051>
- P.54. Pedrosa, J., Gamelas, J. A. F., Lourenço, A. F., Ferreira, P. J. (2016). Surface properties of calcium carbonate modified with silica by sol-gel method. *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, 497, 1-7.
doi: 10.1016/j.colsurfa.2016.02.020
URL: <http://hdl.handle.net/10316/33048>
- P.55. Sousa, S., Pedrosa, J., Ramos, A., Ferreira, P.J., Gamelas, J. A. (2016). Surface properties of xylan and xylan derivatives measured by inverse gas chromatography. *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, 506, 600-606.
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- P.56. Lourenço, A. F., Gamelas, J. A. F., Nunes, T., Amaral, J., Mutjé, P., Ferreira, P. J. (2017). Influence of TEMPO-oxidized cellulose nanofibrils on the properties of filler-containing papers. *Cellulose*, 24(1), 349-362.
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- P.57. Gamelas, J.A.F., Salvador, A., Hidalgo, J., Ferreira, P. J., Tejado, A. (2017). Unique combination of surface energy and Lewis acid-base characteristics of superhydrophobic cellulose fibres. *Langmuir*, 33, 927-935.
doi: 10.1021/acs.langmuir.6b03970.
URL: <http://hdl.handle.net/10316/36735>
- P.58. Aguado, R., Lourenço, A. F., Ferreira, P. J., Moral, A., Tijero, A. (2017). Cationic cellulosic derivatives as flocculants in papermaking. *Cellulose*, 24(7), 3015-3027.
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- P.59. Tarrés, Q., Oliver-Ortega, H., Ferreira, P. J., Pèlach, M. À., Mutjé, P. Delgado-Aguilar, M. (2018). Towards a new generation of functional fiber-based packaging: cellulose nanofibers for improved barrier, mechanical and surface properties. *Cellulose*, 25(1), 683-695.
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1. “Flocos de cargas minerais conjugadas com microfibrilas e nanofibrilas de celulose para aplicação na produção de material papeleiro com propriedades papeleiras melhoradas”; National patent request at *INPI – Instituto Nacional da Propriedade Industrial* (process INPI 20191000030097, 03.06.2019).
2. “Flocs of fillers combined with cellulose micro and Nanofibrils for use in the production of paper products with improved properties”; International patent request at *WIPO - International Bureau of the World Intellectual Property Organization* (process PCT/IB2019/058539, de 08.10.2019).

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1. Ferreira, P. J. (1992) – Experimental techniques to measuring solids concentration in mixing tanks, MSc. thesis, Faculty of Sciences and Technology, University of Coimbra, 169 pp.
2. Ferreira, P. J. (2000) – Eucalyptus globulus kraft pulps studies: Structure characteristics and papermaking potential, PhD. thesis, Chemical Engineering, University of Coimbra, 400 pp.
3. Ferreira, P. J. (1992) – Influência da Forma das Partículas nos Resultados de Análise Granulométrica, (Provas de Aptidão Pedagógica e Capacidade Científica), Faculdade de Ciências e Tecnologia, Universidade de Coimbra, 127 pp.

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Books (Editor)

1. COST Action E54 - "Characterisation of the fine structure and properties of papermaking fibres using new technologies" (2010), Paulo Ferreira and Jorge Canhoto (Eds.), Faculdade de Ciências e Tecnologia, Universidade de Coimbra, Proc. Scientific Workshop, MC9 and WGs Meeting, Coimbra (Portugal), 128 pp., ISBN 978-972-8055-17-2.

Book Chapters:

1. Zanuttini, M., Antúnez, C., Clemente, A., Torres, A.L., Ferreira, P., Mochiutti, P. (2008). Propiedades del papel. *In* Panorama de la Industria de Celulosa y Papel en Iberoamérica 2008, Area, M.C. (Ed.), Red Iberoamericana de Docência e Investigacion en Celulose y Papel, Misiones, Argentina, 235-275. ISBN 978-987-24513-0-1.
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2. Ferreira, P. (2008). Panorama de los países miembros de la RIADICYP – Portugal. *In* Panorama de la Industria de Celulosa y Papel en Iberoamérica 2008, Area, M.C. (Ed.), Red Iberoamericana de Docencia e Investigacion en Celulose y Papel, Misiones, Argentina, 498-505. ISBN 978-987-24513-0-1 (568 p.; 21x15 cm).
URL: http://www.riadicy.org/images/libros/pdfs/panorama/anexoi_paises_miembros.pdf
3. Gamelas J.A.F., Santos J.M.R.C.A., Ferreira P.J. (2011). Surface energetics of Common Pulps I and II by Inverse Gas Chromatography. *In* Fine Structure of Papermaking Fibres, COST Action E54 "Characterisation of the fine structure and properties of papermaking fibres using new technologies". Ander P., Bauer W., Heinemann S., Kallio P., Passas R., Treimanis A. (Eds.), Swedish University of Agricultural Sciences, 39-49. ISBN 978-91-576-9007-4.
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4. Figueiredo, M., Ferreira, J., Campos, E. J. (2015). Electrozone Sensing Goes Nano. *In* Encyclopedia of Analytical Chemistry, Online R.^a Meyers (Ed.), John Wiley & Sons Ltd., Chichester, UK.
doi: 10.1002/9780470027318.a9521
5. Area, M. C., Gutierrez, J. C. V., Park, S. W., Ferreira, (2017). RIADICYP: red Iberoamericana de Celulosa e papel. *In* Panorama de la industria de celulosa y papel y materiales lignocelulósicos 2016. María Cristina Area, Song Won Park (Eds.), Universidad Nacional de Misiones, Argentina, 10-17. Versão PDF digital: ISBN 978-950-766-119-8 (460 pp.; 21 x 15 cm); Versão papel: ISBN 978-950-766-118-1 (Março 2016)
URL:
http://www.riadicy.org/images/libros/pdfs/panorama_industria/livro_panorama_de_la_industria.pdf
6. Ferreira, P., Delgado, M. (2017). A indústria de pasta e papel em Portugal. *In* Panorama de la industria de celulosa y papel y materiales lignocelulósicos 2016. María Cristina Area, Song Won Park (Eds.), Universidad Nacional de Misiones, Argentina, 427-431. Versão PDF digital: ISBN 978-950-766-119-8 (460 pp.; 21 x 15 cm); Versão papel: ISBN 978-950-766-118-1 (Março 2016)
URL:
http://www.riadicy.org/images/libros/pdfs/panorama_industria/livro_panorama_de_la_industria.pdf

7. Ferreira, P. J. T. (2017). Image Analysis Based Techniques for Measuring Pulp Fiber Dimensions. *In* Final book of Cost action FP1005 “Fibre suspension flow modelling: a key for innovation and competitiveness in the pulp & paper industry”, Springer Verlag GmbH (in press)
8. Figueiredo, M., Moura, M. J., Ferreira, P. J. (2017). Selecting a particle sizer for the pharmaceutical industry. *In* Characterization of Pharmaceutical Nano- and Microsystems, Wiley (Wiley-VCH Verlag GmbH & Co). Escrito a convite da Division of Pharmaceutical Chemistry and Technology, Faculty of Pharmacy, University of Helsinki, Finlandia (in press)

Papers in technical journals without referee: 11

Publications in conference proceedings

Total: 121

In international conferences: 111(84 with more than 4 pages)

In national conferences: 10 (6 with more than 4 pages)

Other communications: 13

Prizes:

1. Best Portuguese work presented in the XXI TECNICELPA Conference and Exhibition - VI CIADICYP 2010 (Iberoamerican Congress on Pulp and Paper Research) (October 2010)
2. Best poster presented in the XXII TECNICELPA Conference and Exhibition (October 2013)
3. Best work presented in the XXIII TECNICELPA Conference and Exhibition (October 2016)
4. Best poster presented at the *10th World Congress of Chemical Engineering,- International Symposium on Ligno-cellulosic Materials* (October 2017)
5. *Blue Sky Young Researchers and Innovation Award 2018* (CEPI prize, for the PhD thesis “Improvement of functional properties of different paper grades through the use of cellulose nanofibrils”).

Other Activities:

1. Vice-Director (10.2009-11-2011), Vice President of the Scientific Board (06.2008-10.2009) and Vice-President of the Department Council (01.2003-12.2004) of the Chemical Engineering Department (DEQ); Member of the Department Council and of the Executive Committee of DEQ (01.2001-12.2004); Elected member of the Scientific Board of DEQ (2009-)
2. Member of the Senate and of the Scientific Commission of the Senate of the University of Coimbra (April 1994-September 1998)
3. Vice President of Tecnicelpa - Associação Portuguesa dos Técnicos das Indústrias de Celulose e Papel (11.2010-)
4. National delegate to COST Action E32, COST Action E54 and RIARREC (CYTED) (ended); member and national focal point of RIADICYP; member of the ongoing COST Action FP1005, COST Action FP 1105, COST Action 1205 and COST Action 1306; member of PROVALOR (CYTED) and NANOCELIA (CYTED)
5. Consultancy, R&D Projects and Professional Training in the Pulp and Paper Industry (Several).
6. Organization of International Conferences – 13; Workshops– 5
7. Opponent: 13 final Graduation Seminars; 12 MSc thesis; 12 PhD. Thesis

8. Reviewer of ISI papers: 33
9. Member of the Scientific Committee of International Conferences: 21
10. Invited communications: 9 (1 in a TV program (República do Saber., RTP2))