

At the end of 2014 there were 28 PhD holding members and 77 researchers and post-graduation students working at the Institute, which in that year were responsible for the publication of 77 articles in peer-reviewed (10 other were in press), 10 chapters of internationally edited books (2 other were in press), 12 PhD and 20 MSc theses. Additionally, 103 communications were presented in international scientific conferences by members of IPC and 6 patents were granted to, or applied for, by member of IPC. This output is consistent with the trend of the last years, albeit with some variations from year to year. Concurrently, there was an undeniable consolidation of the international visibility of the members of the Institute, as a result of increasing editorial activities, of the consistent organization of scientific events and invitations for conferences and of the award of international prizes.

If you want to download PDF files of these papers, please contact the Secretariat. If you have already received access information, click [here](#) to download the PDFs.

Books

1. Oliveira, N., Pontes, A.J., Beira, E., Pinto, A.L., Magalhães, R., Reengenharia de produtos e processos – InLaser: tecnologias avançadas de moldes para a produção integrada de óticas para veículos, **Inovatec**, pp.256, 2014, ISBN: 978-150-33702-2-7.

Book Chapters

1. Bernardo, G.; Morgado, J., "Fluorescence Spectroscopy", Chapter 25 in **Characterization of Polymer Blends: Miscibility, Morphology, and Interfaces**, S. Thomas, Y. Grohens, and P. Jyotishkumar (Ed.), Wiley-VCH Verlag, First Edition (December 2014) ISBN: 978-3-527-33153-6.
2. Costa, A.; Novais, P.; Simoes, R. (2014) An AAL Collaborative System: The AAL4ALL and a Mobile Assistant Case Study. In: Camarinha-Matos, L., and Afsarmanesh, H. (Eds.) **Collaborative Systems for Smart Networked Environments, IFIP Advances in Information and Communication Technology**, Springer, Volume 434, pp 699-709, ISBN 978-3-662-44744-4.
3. Costa, A.; Magalhães, P.; Ferreira-Alves, J.; Peixoto, T.; Simoes, R.; Novais, P.; The Caregiver Perspective: An Assistive AAL Platform, in: Ambient Assisted Living and Daily Activities, **Lecture Notes in Computer Science**, Springer, Vol. 8868 (2014) pp. 304-311.
4. Ferrás L.L.; Ford N.J.; Morgado M.L.; Rebelo M.; A numerical method for the solution of the time fractional diffusion equation, *Lecture Notes in Comput. Sci.*, Springer, 8579, 2014, 117–131. DOI: 10.1007 ISBN: 978-3-319-09144-0_9.
5. Frontini, P.M.; Pouzada, A.S, Trends in the multifunctional performance of polyolefin/clay nanocomposite injection mouldings. In Friedrich, K.; Breuer, U. (Eds.) – **Multi-Functional ity of Polymer Composites: Challenges and New Solutions**. Philadelphia: Elsevier, 2014. (in press), ISBN: 978-0-323-26434-1.
6. Guise, C., Fangueiro, R., Nóbrega, J.M., Schneider, W., Study on fibrous materials for brain phantoms. In Graña, M., Toro, C., Howlett, R., Jain, L.C. (eds.) – **Innovation in Medicine and Healthcare 2014**, 2014, IOS Press, Amsterdam/Berlin/Tokyo/Washington, DC (ISBN: 978-1-61499-473-2), pp. 163-172.
7. Hilliou, L., Hybrid carrageenans: isolation, chemical structure and gel properties. *Advances in Food and Nutrition Research*, volume 72, **Marine Carbohydrates:**

Fundamentals and Applications Part A

. Elsevier, 17-44, 2014, ISBN: 978-0-12-800269-8.

8. Macedo, P.; Afonso, J.A.; Rocha, L.A.; Simoes, R. (2014) A Telerehabilitation System based on Wireless Motion Capture Sensors, in: **Physiological Computing Systems, Lecture Notes in Computer Science**, Vol. 8908, pp 55-62, da Silva, H.P., Holzinger, A., Fairclough, S., Majoe, D. (Eds.); Springer, 2014, ISBN 978-3-662-45685-9.

9. Machado, A.V., Barbas, J.; Covas, J.A. Near IR Spectroscopy for the Characterization of Dispersion in Polymer–Clay Nanocomposites, In Mittal (Ed) **Synthesis Techniques for Polymer Nanocomposites**, Wiley (2014) ISBN: 978-3-52733-455-1.

10. Machado, A.V.; Araújo, A.; Oliveira, M., Assessment of Polymer-Based Nanocomposites Biodegradability. **Biodegradable Polymers: New Development**. NOVA Publishers, 2014, (In press).

11. Sampaio, A M; Simoes, R; Pontes, AJ (2014) Tracking surgical instruments: From a management perspective to safety issues, in: **Occupational Safety and Hygiene II**, SHO 2014, Arezes et al (eds), Taylor and Francis: London, ISBN 978-1-138-00144-2.

12. Sampaio, Á. M.; Simões, R.; Pontes, A. Shape analysis in the design process of products with embedded microelectronics. in **High Value Manuf. Adv. Res. Virtual Rapid Prototyp. - Proc. 6th Int. Conf. Adv. Res. Rapid Prototyping**

, [">VR@P>](#), CRC PRESS, 2013 649–653 (2014), ISBN 978-1-1380-0137-4.

International Publications in Peer-reviewed Journals

1. Abreu, A S.; Oliveira, M.; Rodrigues, P. V.; Moura, I.; Botelho, G.; Machado, A. V., **Synthesis and characterization of Polystyrene-block-poly(vinylbenzoic acid): a promising compound for manipulating photoresponsive properties at the nanoscale**

. Journal of Materials Science, (accepted for publication), 2014.

2. Abreu, A. S.; Oliveira, M.; Machado, A. V., **Effect of clay mineral addition on properties of bio-based polymer blends**

Applied Clay Science,

DOI: 10.1016/j.clay.2014.12.006

(in press);

3. Afonso, A.M., Ferrás, L.L., Nóbrega, J.M., Alves, M.A., Pinho, F.T., **Pressure-driven electrokinetic slip flows of viscoelastic fluids in hydrophobic microchannels**

, Microfluidics and Nanofluidics, Vol 16, pp.1131-1142, 2014, DOI: 10.1007/s10404-013-1279-5.

4. Araújo, A.; Botelho, G.; Oliveira, M.; Machado, A.V. **Influence of Clay Organic Modifier on the Thermal Stability of PLA Based Nanocomposites**

, Applied Clay Science., 88-89 p. 144-150, 2014.

5. Araújo, A.; Oliveira, M.; Oliveira, R.; Botelho, G.; Machado, A.V., **Biodegradation Assessment of PLA and its Nanocomposites**

Environmental Science and Pollution Research

, 21(16), 9477-9486, 2014.

6. Araújo, M. C.; Martins, J. P.; Mirkhalaf, S. M.; Lanceros-Mendez, S.; Andrade Pires, F. M.; Simoes, R; P **redicting the mechanical behavior of amorphous polymeric materials under strain through multi-scale simulation**

, Applied Surface Science 306, 37-46, 2014, DOI 10.1016/j.apsusc.2014.03.072.

7. Araújo, R. F.; Proença, M. F.; Silva, C. J.; Paiva, M. C.; Villar-Rodil, S.; Tascón, J. M. D. **The solvent effect on the sidewall functionalization of multi-walled carbon nanotubes with maleic anhydride**

, Carbon 78, 401-414, 2014.

8. Azevedo G.; Bernardo G.; Hilliou L.; **NaCl and KCl phase diagrams of**

kappa/iota-hybrid carrageenans extracted from Mastocarpus stellatus

, Food Hydrocolloids 37, 116-123, 2014.

9. Azevedo, G.; Domingues, B.; Abreu, H.; Sousa-Pinto, I.; Feio, G.; Hilliou, L. **Impact of cultivation of Mastocarpus stellatus in IMTA on the seaweeds chemistry and hybrid carrageenan properties**

. Carbohydrate Polymers, (in press), 2014.

10. Barbas, J.M.; Machado, A.V.; Covas, J.A. **Processing Conditions Effect on Dispersion Evolution in a Twin-Screw Extruder: Polypropylene-Clay Nanocomposites**

. Chemical Engineering & Technology, 37 (2) p. 257-266, 2014. DOI: 10.1002/ceat.201300303.

11. Barbosa CN, Gonçalves F, Viana JC, **Nano and Hybrid Composites based on Poly(ethylene terephthalate): Blending and Characterization**

, Advances in Polymer Technology, 33 (2), 2014, pp-1-12. DOI: 10.1002/adv.2139.

12. Barbosa, C.N.; Carvalho, F.; Viana, J.C.; Franzen, M.; Simoes, R.; **Impact performance prediction of injection-molded talc-filled polypropylene through thermomechanical environment assessment**

; International Journal of Advanced Manufacturing Technology (in press) 2014, DOI 10.1007/s00170-014-6495-y.

13. Bernacka-Wojcik, I.; Ribeiro, S.; Wojcik, P.J.; Alves, P.U.; Busani, T.; Fortunato, E.; Baptista P.; Covas, J.A., Aguas, H.; Hilliou, L.; Martins, R., **Experimental optimization of a passive planar rhombic micromixer with obstacles for effective mixing in a short channel length.** RSC

Advances, 4, 56013-56025, 2014. DOI: 10.1039/C4RA10160J.

14. Bernardo G.; Nabankur Deb.; Pereira P.; Brandão L.; Viana J.; Bucknall D. G.; **Solid State Low Temperature Extrusion of P3HT Ribbons**

, Applied Physics A 117, 2079-2086, 2014.

15. Bernardo, C.; Moura, I.; Núñez F. Y.; Nunes-Pereira J. E.; Coutinho, P. J. G.; Fontes Garcia M. A.; Schellenberg, P.; Belsley, M.; Costa, M. F.; Stauber, T.; Vasilevskiy, M. **Energy transfer via exciton transport in quantum dot based self-assembled fractal structures.** E

Journal of Physics and Chemistry C, 118, 4982–4990, 2014.

16. Brandão L.; Viana J.; Bucknall D. G.; Bernardo G., **Solventless processing of conjugated polymers, A review** , Synthetic Metals 197, 23–33, 2014.
17. Costa S. F.; Duarte F. M.; Covas J. A., **Thermal conditions affecting heat transfer in FDM/FFE: a contribution towards the numerical modelling of the process** , Virtual and Physical Prototyping 2014 DOI: 10.1080/17452759.2014.984042.
18. Costa, A.; Novais, P.; Simoes, R. **A Caregiver Support Platform within the Scope of an Ambient Assisted Living Ecosystem** . Sensors 14 5654-5676, 2014.
19. Costa, M., Vasco, J.; Pouzada, A. S.; Pontes, A. J. **Characterization of polymer behaviour in microchannels** . in AIP Conference Proceedings 1593, 209–212, 2014.
20. Costa, S.F.; Duarte, F.M.; Covas, J.A., **Thermal conditions affecting heat transfer in FDM/FFE: a contribution towards the numerical modelling of the process** . Virtual and Physical Prototyping, (in press), 2014.
21. Costa, P., Silva, J., Ans]on-Casaos, A., Martinez, M.T., Abad, M.J., Viana, J.C., Lamnceros-M]endez, S., **Effect of carbon nanotube type and functionalization on the electrical, thermal, mechanical and electromechanical properties of carbon nanotube/styrene-butadiene-styrene composites for large strain sensor applications** , Composites Part B: Engineering, 61, , pp. 136-146, 2014 (IF=2.143).
22. Costa, P., Cruz, S., Viana, J.C., Lanceros-/Méendez, S., **Extruded thermoplastic elastomers styrene-butadiene-styrene/carbon nanotubes composites for strain sensor applications** , Composites Part B: Engineering, 57, pp 242-249, 2014, , <http://dx.doi.org/10.1016/j.compositesb.2013.10.006> (IF=2.143).
23. Cruz S., Viana, J.C., **Melt blending and characterization of carbon-nanoparticles filled thermoplastic polyurethane elastomer** , Journal of Elastomers and Plastics, 2014, doi: 10.1177/0095244314534097.

24. Cruz, S., Viana, J.C., Dias, D., Rocha, L.A., **Pressure sensing platform for health monitoring, Medical Measurements and Applications (MeMeA)**, 2014 IEEE International Symposium on Medical Measurements and Applications, IEEE MeMeA 2014, Lisbon; Portugal; 11-12 June 2014, p. 1-5, DOI: 10.1109/MeMeA.2014.6860131 (978-1-4799-2920-7).
25. Cunha M.; Berthet M.-A.; Pereira R.; Covas J. A.; Vicente A. A.; Hilliou L., **New biodegradable composites for food packaging**, Plastics Research Online, Society of Plastics Engineers, 2014, DOI: 10.2417/spepro.005559.
26. Cunha, M.; Berthet, M-A.; Pereira, R.; Covas, J.A.; Vicente, A.A.; Hilliou, L. **Development of polyhydroxyalkanoate/beer spent grain fibers composites for film blowing applications.** Polymer Composites, (in press), 2014, DOI: 10.1002/pc.23093.
27. Cunha, M; Simoes, R; Varajao, J; Miranda, I; **Information Technology Supporting Healthcare and Social Care Services: An e-Marketplace Case Study**, Journal of Information Technology Research 7 41-58, 2014.
28. Cyriac, F.; Covas, J.A.; Hilliou, L.; Vittorias, I., **Predicting extrusion instabilities of commercial polyethylene from non-linear rheology measurements**. Rheologica Acta, 53, 817-829, 2014. DOI: 10.1007/s00397-014-0798-7.
29. Deb, K.; Bandaru, S.; Greiner, D.; Gaspar-Cunha, A.; Tutum, C. C., **An Integrated Approach to Automated Innovization for Discovering Useful Design Principles: Case Studies from Engineering**. Applied Soft Computing, 15(2), 42–56, 2014.
30. Dencheva, N.; Gaspar, H.; Filonovich, S.; Lavrova, O.; Busani, T.; Bernardo, G.; Denchev Z., **Fullerene-Modified Polyamide 6 by In-situ Anionic Polymerization in the Presence of PCBM**, Journal of Materials Science 49, 4751-4764, 2014.
31. Dencheva, N.V.; Sampaio, A.S.; Oliveira, F.M.; Pouzada, A.S.; Brito, A.M ; Denchev, Z.Z., **Preparation and Properties of Polyamide-6 Based Thermoplastic Laminate Composites by a Novel InMold Polymerization Technique**, Journal of Applied Polymer Science, 131 (8), 2014. Article first published online: 24 NOV 2013 | DOI:

10.1002/app.40083.

32. Fernandes E. M.; Aroso I. M.; Covas J. A.; Mano J. F.; Reis R. L.; **Functionalized cork-polymer composites (CPC) by reactive extrusion using suberin and lignin from cork as coupling agents**

Composites Part B: Engineering 67, 371–380, 2014 DOI: 10.1016/j.compositesb.2014.07.028.

33. Fernandes L.; Gaspar H.; Bernardo G., **Inhibition of thermal degradation of polystyrene by C60 and PCBM: a comparative study**

, Polymer Testing 40, 63-69, 2014.

34. Fernandes, C., Pontes, A. J., Viana, J. C., Nóbrega, J. M., Gaspar-Cunha, A. **Modeling of Plasticating Injection Molding, Experimental Assessment.**

International Polymer Processing 29, 558–569, 2014. doi:10.3139/217.2862.

35. Fernandez-Lopez, H.; Afonso, J.A.; Correia; J.H.; Simoes, R., **Remote Patient Monitoring Based on ZigBee: Lessons from a Real-World Deployment**

, Telemedicine and e-Health 20, 47, 2014 DOI:10.1089/tmj.2013.0059.

36. Ferrás L.L.; Afonso A.M.; Nóbrega J.M.; Alves M.A.; Pinho F.T.; Carneiro O.S., **Slip flows of Newtonian and viscoelastic fluids in a 4:1 contraction**

, Journal of Non-Newtonian Fluid Mechanics 214 28–37, 2014, DOI: 10.1016/j.jnnfm.2014.09.007.

37. Ferrás, L.L., Afonso, A.M., Alves, M.A., Nóbrega, J.M., Pinho, F.T., **Analytical and numerical study of the electro-osmotic annular flow of viscoelastic fluids**

, Journal of Colloid and Interface Science, Vol 420, pp. 152-157, 2014.

38. Ferrás, L.L., Afonso, A.M., Alves, M.A., Nóbrega, J.M., Pinho, F.T., **Annular flow of viscoelastic fluids: Analytical and numerical solutions**

, Journal of Non-Newtonian Fluid Mechanics, Vol 212, pp. 80-91, 2014, DOI: 10.1016/j.jnnfm.2014.07.004.

39. Ferreira, T.; Lopes, P. E.; Pontes, A. J.; Paiva, M. C. **Microinjection molding of polyamide 6**

, Polymers for Advanced Technologies. 25, 891-895, 2014.

40. Ferreira, V.; Santos, L.P.; Franzen, M.; Ghouati, O.O.; Simoes, R. **Improving FEM crash simulation accuracy through local thickness estimation based on CAD data**, *Advances in Engineering Software* 71 52-62, 2014, DOI 10.1016/j.advengsoft.2014.02.003.
41. Ferreira-Alves, J; Magalhães, P; Viola, L, Simoes, R; **Loneliness in Middle and Old Age**, *Archives of Gerontology and Geriatrics* 59 613-623, 2014 DOI <http://dx.doi.org/10.1016/j.archger.2014.06.010>.
42. Gama O., Simoes, R.; **A MAC Scheme to Improve the Transmission Performance in Body Sensor Networks**, *Wireless Personal Communications*, 2014 (in press) DOI 10.1007/s11277-014-2086-3.
43. Gaspar H.; Fernandes L.; Brandão L.; Bernardo G., **Increase in thermo-oxidation stability of conjugated polymers at high temperatures**, *Polymer Testing* 34, 183-191, 2014.
44. Gaspar-Cunha A.; Covas J. A., **The plasticating sequence in barrier extrusion screws; part 1: modeling**, *Polymer Engineering Science* 54, 1791-1803 2014 DOI: 10.1002/pen.23722.
45. Gaspar-Cunha, A.; Covas, J. A.; **A Universal Engineering Scale-Up Approach using Multi-Objective Optimization**, *International Journal of Natural Computing Research*, 4(1), 17–30, 2014 doi:10.4018/ijncr.201401010.
46. Gaspar-Cunha, A.; Covas, J. A.; **The Plasticating Sequence In Barrier Extrusion Screws Part II: Experimental Assessment**, *Polymer-Plastics Technology and Engineering*, 53(14), 1456–1466, 2014 doi:10.1080/03602559.2014.909482.
47. Gaspar-Cunha, A.; Ferreira, J.; Recio, G., **Evolutionary Robustness Analysis for Multi-Objective Optimisation: Benchmark Problems**, *Structural Multidisciplinary Optimization*, 49(5), 771–793, 2014, doi:10.1007/s00158-013-1010-x.
48. Gaspar-Cunha, A.; Recio, G.; Costa, L.; Estébanez, C., **Self-Adaptive MOEA Feature Selection for Classification of Bankruptcy Prediction Data**, *The Scientific World Journal*, (314728), 20. 2014. doi:10.1155/2014/314728.

49. Gehlen A.; Barbutti Filho W. R.; Ornaghi Junior H. L.; Covas J. A.; Zeni M.; Zattera A. J.; **Influence of Different Organomodified Clays on the Viscoelastic Response of EVA/PVC/Organoclay Nanocomposites**, Journal of Elastomers and Plastics 47, 1-11, 2014 DOI: 10.1177/0095244314534099.

50. Gomes, M.; Pontes, A. J.; Viana, J. C. **Influence of the local morphology on the surface tension of injection molded polypropylene**, AIP Conferences Proceeding 1593, 199–203, 2014.

51. Gonçalves, I.; Abreu, A. S.; Matamá, T.; Gomes, A. C.; Silva, C.; Cavaco-Paulo, A., **Enzymatic synthesis of poly(catechin)-antibiotic conjugates: an antimicrobial approach for indwelling catheters**, Applied Microbiology and Biotechnology, (Published online, 21 october), 2014 (DOI) 10.1007/s00253-014-6128-2.

52. Gonçalves, N.D., Teixeira, P., Ferrás, L.L., Afonso, A.M., Nóbrega, J.M., Carneiro, O.S., **Design and optimization of an extrusion die for the production of wood-plastic composite profiles**, Polymer Engineering and Science, doi: 10.1002/pen.24024, 2014.

53. Gusmão R., López-Puente V., Pastoriza-Santos I., Perez-Juste J., Proença M. F. P, F. Bento, D. Geraldo, Paiva M. C., E. Gonzalez-Romero, **Enhanced electrochemical sensing of polyphenols by oxygen-mediated surface**, RSC Advances, 2014, DOI: 10.1039/C4RA12660B, (accepted for publication).

54. Lafranche, E.; Oliveira, V.M.; Martins, C.I.; Krawczak, P. **Prediction of injection-moulded flax fibre reinforced polypropylene tensile properties through a micro-morphology analysis**, Journal of Composite Materials, 0(0), 1-16, online 10 Dec 2013. DOI: 10.1177/0021998313514875 (in press).

55. Loureiro, NC., Esteves, JL., Viana, JC, Ghosh, S, **Development of Polyhydroxyalkanoates/Poly (Lactic Acid) composites reinforced with cellulosic fibers**, Composites Part B: Engineering, 60, April 2014, pp 603-611, <http://dx.doi.org/10.1016/j.compositesb.2014.01.001>

56. Marques, M.; Terroso, M.; Freitas, R.; Torres Marques, A.; Gabriel, J.; Simoes, R., **A**

procedure for a mechanical evaluation of an undefined osteo-protective material, Accident Analysis and Prevention 2014 (accepted for publication).

57. Martins, R., Azevedo, T., Gonçalves, R., Rocha, G., Nóbrega, J.M., Carvalho, H., Lanceros-Mendez, S., **Piezoelectric co-axial filaments produced by co-extrusion of poly(vinylidene fluoride) and electrically conductive inner and outer layers**, Journal of Applied Polymer Science, Vol 131, 17, 2014.

58. Martins, R., Silva, M., Gonçalves, R., Rocha, G., Nóbrega, J.M., Carvalho, H., Lanceros-Mendez, S., **Processing and Electrical Response of Fully Polymer Piezoelectric Filaments for e-Textiles Applications**, Journal of Textile Engineering, Vol 60, 2, pp. 27-34, 2014.

59. Mendes, N.; Loureiro, A.; Martins, C.; Neto, P; Pires, J.N., **Morphology and strength of acrylonitrile butadiene styrene welds performed by robotic friction stir welding**, Materials & Design, Vol 64, pp. 81-90, 2014, 10.1016/j.matdes.2014.07.047.

60. Mendes, N.; Loureiro, A.; Martins, C.; Neto, P; Pires, J.N., **Effect of Friction stir welding parameters on morphology and strength of acrylonitrile butadiene styrene plate welds**, Materials & Design, Vol 58, pp. 457-464, 2014, 10.1016/j.matdes.2014.02.036.

61. Michelangelli, O. P.; Gaspar-Cunha, A.; Covas, J. A., **The influence of pellet-barrel friction on the granular transport in a single screw extruder**, Powder Technology, 264(9), 401–408, 2014, doi:10.1016/j.powtec.2014.05.066.

62. Mould, S.T., Barbas, J.M., Machado, A.V., Nóbrega, J. M., Covas, J.A., **Preparation of Polymer-Clay Nanocomposites by Melt Mixing in a Twin Screw Extruder: Using On-Line SAOS Rheometry to Assess the Level of Dispersion**, International Polymer Processing, Vol 29, pp. 63-70, 2014, DOI: 10.3139/217.2803.

63. Moura, I.; Botelho, G.; Machado, A.V., **Characterization of EVA/PLA Blends When Exposed to Different Environments**, Journal of Polymers and Environment, 22, 148-157, 2014.

64. Moura, I.; Cerqueira, M.F.; Melnikau, D.; Savateeva, D.; Rakovich, Y.; Borges, J.; Vaz, F.; Vasilevskiy, M., E **ffect of surface plasmon resonance in TiO₂/Au thin films on the fluorescence of self-assembled CdTe QDs structure**

CO-23 – enlightening the future - Journal of Physics: Conference Series, (in press), 2014.

65. Novo, P.J, Nunes, J. P., Silva, J. F., Tinoco, V., Marques, A. T. **Production of thermoplastics matrix preimpregnated materials to manufacture composite pultruded profiles** . Ciência &

Tecnologia dos Materiais

, Vol. 25, Issue 2, pp. 85

□

91,

<http://dx.doi.org/10.1016/j.ctmat.2014.03.004>

, 2014.

66. Nunes-Pereira, J.; Costa, C.M.; Sousa, R.E.; Machado, A.V.; Silva, M.M.; Lanceros-Mendez, S. **Li-ion Battery Separator Membranes Based on Barium Titanate and Poly(Vinylidene Fluoride-co-Trifluoroethylene): Filler Size and Concentration Effects** . Electrochimica Acta, 117 (5) p. 276-284, 2014.

67. Oliveira, M., Mota, C., Abreu, A.S., Nobrega, J.M., Machado, A.V., **Development of a green material for horticulture** , Journal of Polymer Engineering, (accepted for publication), DOI: 10.1515/polyeng-2014-0262, 2014.

68. Oliveira, M.; Machado, A.V., **Nanocomposites Prepared by Reactive Extrusion: Effect of the Polymer Reactive Groups** , Macromolecular Reaction Engineering, 8(2), 134-140, 2014.

69. Oliveira, M.; Rodrigues, A.L.; Ribeiro, D.; Brito, A.G.; Nogueira, R.; Machado, A.V. **Phosphorus Removal by a Fixed-Bed Hybrid Polymer Nanocomposite Biofilm Reactor** . Chemistry and Ecology , 30 p. 428-439, 2014.

70. Oliveira, N.; Pontes, A. J. **In mold laser welding for high precision polymer based optical components** , in AIP Conferences Proceeding, 1593, 204–208, 2014.

71. Peralta, J.; Hilliou, L.; Silva, H.M.RD.; Machado, A.V.; Williams, R.C. **Rheological changes in the bitumen caused by heating and interaction with rubber during asphalt-rubber production**, *Rheologica Acta*, 53, 143-157, 2014.
72. Pistor V.; Covas J. A.; Zattera A. J., **The Influence of Screw Speed on the Mechanical and Rheological Properties of Poly(ethylene-co-vinyl acetate), Organomodified Montmorillonite Nanocomposites**, *Polymer Composites*, 2014, DOI: 10.1002/pc.23004.
73. Rodrigues, A.L., Machado, A.V., Nóbrega, J.M., Albuquerque, A., Brito, A.G., Nogueira, R., **A poly- ϵ -caprolactone based biofilm carrier for nitrate removal from water**, *International Journal of Environmental Science and Technology*, Vol 11, pp. 263-268, 2014.
74. Rodriguez-Rivero, C.; Hilliou, L.; Martin del Valle, E.M.; Galan, M.A., **Rheological characterization of comercial highly viscous alginate solutions in shear and extensional flows**, *Rheologica Acta*, 53, 559-570, 2014.
75. Sabet, S.M.M., Marques, J., Nova, M., Torres, R., van Hattum, F.W.J., Nóbrega, J.M., **Numerical modelling of a rollover carwash machine structure**, *International Journal of Modelling and Simulation*, Vol 34, 2014.
76. Sanches-Silva, A.; Costa, D.; Albuquerque, T.; Buonocore, G.; Ramos, F.; Castilho, M.C.; Machado, A.V.; Costa, H. **Trends in the Use of Natural Antioxidants in Active Food Packaging: a Review**, *Food Additives & Contaminants: Part A*, 31 (3) p. 374-395, 2014.
77. Santos, R.M.; Botelho, G.L.; Machado, A.V. **Development of Acrylonitrile-Butadiene-Styrene Composites with Enhanced UV Stability**, *Journal Materials. Science*, 49 (2) p. 510-518, 2014.
78. Silva, J.; Lanceros-Mendez, S.; Simoes, R.; **Effect of cylindrical filler aggregation on the electrical conductivity of composites**, *Physics Letters A* 378 2985-2988, 2014.
79. Simões, C. L., Costa-Pinto, L. M., Bernardo, C.A., **Environmental and economic analysis of end of life management options for an HDPE product using a life cycle**

thinking

. Waste Management &

Research, 32(5) 414–422, 2014.

80. Simões, C. L., Vasconcelos, M., Nunes, J.P., Bernardo, C.A, **Using a glass-fibre reinforced polymer composite in the production of sustainable water storage vessels**, International Journal of Materials and Product Technology, (accepted for publication), 2014.

81. Sousa, R.E.; Nunes-Pereira, J.; Ferreira, J.C.C.; Costa, C.M.; Machado, A.V.; Silva, M.M.; Lanceros-Mendez, S.S. **Microstructural Variations of Poly(Vinylidene Fluoride Co-Hexafluoropropylene) and Their Influence on the Thermal, Dielectric and Piezoelectric Properties**, Polymer Testing, 40 p. 245-255, 2014.

82. Taheri, H., Nóbrega, J. M., Samyn, P., Covas, J. A. **The effect of temperature and drawing ratio on the mechanical properties of polypropylene monofilaments**. AIP Conference Proceedings, Vol 1593(1), pp 80-85, 2014, doi: doi:
<http://dx.doi.org/10.1063/1.4873739>

83. Teixeira C.; Covas J. A.; Stützle T.; Gaspar-Cunha A., **Hybrid algorithms for the twin–screw extrusion configuration problem**, Applied Soft Computing, 23, 298–307, 2014, DOI:
<http://dx.doi.org/10.1016/j.asoc.2014.06.022>.

84. Teixeira P. F.; Covas J. A.; Maia J. M.; Hilliou L. , **In-line particle size assessment of polymer suspensions during processing**, Polymer Testing, 37, 68–77, 2014 DOI: 10.1016/j.polymertesting.2014.05.001.

85. Todorov, LV; Martins, CI; Viana, JC, **In situ WAXS/SAXS structural evolution study during uniaxial stretching of poly(ethylene terephthalate) nanocomposites in the solid state: Poly(ethylene terephthalate)/titanium dioxide and poly(ethylene terephthalate)/silica nanocomposites**, Journal of Applied Polymer Science, Volume 131, Issue 3, February 5, 2014, 10.1002/app.39752.

86. Tomé, M.F., Castelo, A., Nóbrega, J.M., Carneiro, O.S., Sanchez, G., Pereira, F.T., **Numerical and experimental investigations of three-dimensional container filling with Newtonian viscous fluids**, Computers and Fluids, Vol. 90, pp. 172-185, 2014, (DOI) 10.1016/j.compfluid.2013.11.015.

87. Torres, M.D.; Hallmark, B.; Wilson, D.I.; Hilliou, L., **Natural Giesekus fluids: shear and extensional behaviour of food gum solutions in the semidilute regime** . AICHE Journal, 60(11), 3902-3915, 2014.

PhD Theses

1. Barbas, Joana Margarida de Oliveira, **Uso de tecnologias de caracterização em linha durante a produção de materiais nanoestruturados** , Tese de doutoramento em Ciência e Engenharia de Polímeros e Compósitos, 2014.

2. Ferreira, Maria de Fátima de Almeida, **Dispersão de nanoargilas em matrizes poliméricas com recurso a extrusora de duplo fuso: desempenho termomecânico e compatibilização de misturas** , Tese de Doutoramento em Engenharia de Materiais, 2014.

3. Ferreira, Tânia Sofia Araújo Figueiras, **Microinjeção de compósitos poliméricos com nanotubos de carbon funcionalizados** , Tese de doutoramento em Ciência e Engenharia de Polímeros e Compósitos, 2014.

4. Garcia, Mauro César Rabuski, **Estudo da Contração e Forças de Extração em Termoplásticos Reforçados com Fibras de Vidro Nanoargilas** , Tese de doutoramento em Ciência e Engenharia de Polímeros e Compósitos, 2014.

5. Gonçalves, Néelson Daniel Ferreira, **Computer Aided Design of Extrusion Dies for Complex Geometry** , Tese de doutoramento em Ciência e Engenharia de Polímeros e Compósitos, 2014.

6. Matias, João Manuel, **Micro-estereolitografia por infravermelhos**, Tese de doutoramento em Ciência e Engenharia de Polímeros e Compósitos, 2014.

7. Mould, Sacha Trevelyan, ***Nanocomposites: The contribution of multiscale modeling to improve the dispersion levels in nanocomposites***, Tese de doutoramento em Ciência e Engenharia de Polímeros e Compósitos, 2014.

8. Neves, Alessandra Fortuna, ***Avaliação de peças moldadas por injeção de compósitos de polipropileno isotático/nanocargas em um molde fabricado por vazamento de resina epóxi/fibras de aço***, tese do Programa de Pós-Graduação em Ciência e Engenharia de Materiais da Universidade Federal de Santa Catarina, Brasil, 2014.

9. Oliveira, Néelson Duarte Mendes, ***Advanced in mould assembling technologies for high precision polymer based optical components***, Tese de doutoramento em Líderes para Indústrias Tecnológicas, 2014.

10. Regel, Franziska, ***A crash modeling approach for braided composites under non-axial loading***, Tese de doutoramento em Ciência e Engenharia de Polímeros e Compósitos, 2014.

11. Sepúlveda, Alexandra da Conceição Teixeira, ***Utilização de nanocompositos para sensores de pressão flexíveis***, Tese de doutoramento em Líderes para Indústrias Tecnológicas, 2014.

12. Simões, Carla Alexandra Faria Loureiro, ***Integrating environmental and economic tools into product development***, Tese de doutoramento em Ciência e Engenharia de Polímeros e Compósitos, 2014

MSc Theses

1. Azevedo, Daniel Joaquim Simões, ***Otimização das condições de processamento, aplicadas a um caso real para moldação de peças finas em PBT,*** Mestrado Integrado em Engenharia de Polímeros, 2014;
2. Barros, Patrícia Martins da Costa, ***Preparação e caracterização de compósitos termoendurecíveis reforçados com fibras vegetais de juta e sisal,*** Mestrado Integrado em Engenharia de Polímeros, 2014;
3. Brêda, José Carlos Coutinho de Freitas, ***Microencapsulation of Metal Powders in Polyamide 6 and Its Application for Conductive Composites,*** Mestrado em Propriedades e Tecnologia dos Polímeros, 2014;
4. Coelho, Marta Sofia Fernandes, ***Caraterização e otimização de peças em material compósito produzidas por infusão/vácuo***, Mestrado Integrado em Engenharia de Polímeros, 2014;
5. Cunha, Ana Isabel Rodrigues, ***Estudo de mistura de PVC flexível com outros polímeros para aplicação em cabos elétricos,*** Mestrado Integrado em Engenharia de Polímeros, 2014;
6. Feliciano, Yves Matthieu Miguel, ***Processamento de peças de alto brilho,*** Mestrado Integrado em Engenharia de Materiais, 2014;
7. Gomes, Rui, ***Desenvolvimento e produção de filamentos para utilização em impressoras 3D***, Mestrado Integrado em Engenharia de Polímeros, 2014;
8. Haseeb, Farah, ***Rheological assessment of dispersion in aliphatic-aromatic copolyester/clay nanocomposites***, Mestrado em Reologia Aplicada à Engenharia, 2014;
9. Machado, Marco João Pinto da Silva, ***Desenvolvimento de uma cápsula de café biodegradável,*** Mestrado Integrado em Engenharia de Polímeros, 2014;
10. Marques, João Paulo Ribeiro, ***Optimização de uma peça de autorádio,*** Mestrado Integrado em Engenharia de Polímeros, 2014;

11. Martins, Bruno, ***Fissuras em PVC plastificado para estofos - caraterização dos modos de falha e suas interações (TMG Automotive)***, Mestrado Integrado em Engenharia de Polímeros, 2014;
12. Matos, Joana Miranda, ***Projeto e fabrico de um permeabilímetro para determinação da permeabilidade de reforços para materiais compósitos***, Mestrado Integrado em Engenharia de Polímeros, 2014;
13. Melo, David Emmanuel do Vale, ***Estudo e Otimização da Introdução de Novas Matérias-Primas na Produção de Perfis Pultrudidos em Material Compósito***, Mestrado Integrado em Engenharia de Polímeros, 2014;
14. Oliveira, Filipa Manuela Matos, ***Microencapsulation of Carbon Allotropes in Polyamide 6 and Its Application for Conductive Composites***, Mestrado em Propriedades e Tecnologia dos Polímeros, 2014;
15. Paiva, Tiago José Macedo de Figueiredo, ***Desenvolvimento de um sistema autónomo de produção contínua de filamento para prototipagem rápida***, Mestrado Integrado em Engenharia de Polímeros, 2014;
16. Pereira, Vítor Manuel Alves, ***Investigation of hard-soft component adhesion bonding for sealing applications***, Mestrado Integrado em Engenharia de Polímeros, 2014;
17. Pimenta, Vera de Sousa, ***Lessons Learned - Auto industry product Improvements and Development***, Mestrado Integrado em Engenharia de Polímeros, 2014;
18. Prata, Alexandra Daniela Borges da Silva, ***Compósitos de café em soluções aquosas de Polímeros***, Mestrado Integrado em Engenharia de Polímeros, 2014;
19. Rocha, Helena Cristina Lopes, ***Graphene Nanoribbons for Multilayer Films based on Natural Polymers***, Mestrado Integrado em Engenharia de Materiais, 2014;

20. Rodrigues, Sérgio José Ferreira, **Estudo do desempenho de moldes híbridos em moldação por injeção**, Mestrado Integrado em Engenharia de Polímeros, 2014;