

PERSONAL INFORMATION **Antonio Jose Almeida**

WORK EXPERIENCE

- March 1988- Present **Full Professor**
Universidade de Lisboa, Faculdade de Farmácia (Portugal)
Teaching at pregraduate and postgraduate levels
Research in pharmaceutical technology, drug deliver and nanomedicines

EDUCATION AND TRAINING

- 1987 **Pharmaceutical Sciences**
Universidade de Lisboa, Faculdade de Farmácia (Portugal)
Industrial Pharmacy
- September 1990-November 1993 **PhD**
Aston University (United Kingdom)
Pharmaceutical Technology; vaccines
- July 2005-July 2005 **Habilitation**
Universidade de Lisboa, Faculdade de Farmácia (Portugal)
Pharmaceutical sciences

ADDITIONAL INFORMATION

- Expertise** Pharmaceutical Technology. Quality of medicines.
Drug delivery and targeting using micro- and nanoparticulate carriers.

- Publications** **BOOK CHAPTERS**
- Almeida AJ, Alpar HO (1997). Mucosal immunisation with antigen-containing microparticles. In: Gander B, Merkle HP, Corradin G (eds), Antigen Delivery Systems: Immunological and Technological Issues. Harwood Academic Publishers, Amsterdam (ISBN: 90-5702-267-2), pp. 207-226.
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- Almeida AJ, Florindo HF (2012). Nanostructures overcoming the nasal barrier: Physiological considerations and mechanistic issues. In: Alonso MJ, Csaba NS (eds), Nanostructured Biomaterials for Overcoming Biological Barriers. RSC Publishing, Cambridge (ISBN: 978-1-84973-363-2), pp. 117-132.
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- Louro AH, Bettencourt A, Goncalves LM, Almeida AJ, Silva MJ (2015). The role of nanogenotoxicology studies in safety evaluation of nanomaterials. In: Thomas S, Grohens Y, Ninan N (eds). Nanotechnology Applications in Tissue Engineering. Elsevier Inc. (ISBN: 978-0-323-32889-0), pp. 263-284.
- Bettencourt A, Almeida AJ (2015). Poly(methyl methacrylate) (PMMA): drug delivery carrier applications. In: Mishra MK, (ed), Encyclopedia of Biomedical Polymers and Polymeric Biomaterials. CRC Press, Taylor & Francis, (ISBN-13: 978-1-4398-9879-6), vol. 11, pp. 6511-6525.
- Vitorino C, Almeida AJ, Sousa JJ, Pais AACC (2015). Crossing the skin barrier: a development strategy. In: Pais AACC, Sousa JJ, Vitorino C (eds), Simvastatin Delivery: Challenges and

- Opportunities. Nova Science Publishers, Inc., New York (ISBN: 978-1-63482-148-3), pp. 61-91.
- Gaspar D, Peres C, Florindo H, Almeida AJ (2016). Mucosal immunization using polyester-based particulate systems. In: Ravi Kumar MNV (ed), *Handbook of Polyester Drug Delivery Systems*. Pan Stanford Publishing Pte. Ltd., Singapore (ISBN: 978-9814669658), pp. 521-561.
- Marto J, Jorge I, Almeida AJ, Ribeiro HM (2016). Novel starch-derived topical delivery systems. In: Ascenso A, Ribeiro, H, Simoes S (eds), *Carrier-Mediated Dermal Delivery: Applications in the Prevention and Treatment of Skin Disorders*. Pan Stanford Publishing Pte Ltd., Singapore (ISBN: 9789814745581), pp. 175-217.
- Vitorino C, Almeida AJ (2016). Solid lipid nanoparticles (SLN) and nanostructured lipid carriers (NLC) as topical delivery systems for antioxidants. In: Ascenso A, Ribeiro, H, Simoes S (eds), *Carrier-Mediated Dermal Delivery: Applications in the Prevention and Treatment of Skin Disorders*. Pan Stanford Publishing Pte Ltd., Singapore (ISBN: 9789814745581), pp. 217-263.
- Gaspar DP, Almeida AJ (2018). Surface-functionalized lipid nanoparticles for site-specific drug delivery. In: Pathak YV (ed), *Surface Modification of Nanoparticles for Targeted Drug Delivery*. Springer Inc, USA (ISBN: 978-3030061142). pp. 73-98.
- Marto J, Ribeiro HM, Almeida AJ (2019). Starch-based nanocapsules as drug carriers for topical drug delivery. In: Nguyen-Tri P, Do TO, Nguyen TA (eds), *Smart Nanocontainers: Fundamentals and Emerging Applications*. Elsevier Inc, (ISBN: 9780128167700), pp. 287-294.
- Mota AM, Sousa A, Figueira M, Amaral M, Sousa B, Rocha J, Fattal E, Almeida AJ, Reis CP (2020). Natural-based consumer health nanoproducts: medicines, cosmetics and food supplements. In: Hussain CM (ed), *Handbook of Functionalized Nanomaterials for Industrial Applications*. Elsevier Inc, Amsterdam, (ISBN: 978-0-12-816787-8), pp. 527-578.
- Mota AH, Santos-Rebello A, Almeida AJ, Reis CP (2021). Therapeutic implications of nanopharmaceuticals in skin delivery. In: Yata V, Ranjan S, Dasgupta N, Lichtfouse E (eds), *Nanopharmaceuticals: Principles and Applications*, Vol. 1. Springer, Cham. (ISBN: 978-3-030-44924-7) pp. 205-272.
- Ascenso A, Simoes S, Marto J, Ribeiro HM, Almeida AJ (2021). Colloidal disperse systems: microemulsions and nanoemulsions. In: Eloy JO, Abriata JP, Marchetti JM (eds.), *Nanocarriers for Drug Delivery. Nanomedicine and Nanotechnology*. Springer, Cham. (ISBN 978-3-030-63388-2) pp. 73-81.

SELECTED PAPERS

- Almeida AJ, Alpar HO, Brown MRW (1993). Immune response to nasal delivery of antigenically intact tetanus toxoid associated with poly(L-lactic acid) microspheres in rats, rabbits and guinea-pigs. *J Pharm Pharmacol*, 45: 198-203.
- Alpar HO, Almeida AJ, Brown MRW (1994). Microsphere absorption by the nasal mucosa of the rat. *J Drug Targeting*, 2: 147-149.
- Alpar HO, Almeida AJ (1994). Identification of some physico-chemical characteristics of microspheres, which influence the induction of the immune response following mucosal delivery. *Eur J Pharm Biopharm*, 40: 198-202.
- Poyner EA, Alpar HO, Almeida AJ, Gamble MD, Brown MRW (1995). A comparative study on the pulmonary delivery of tobramycin encapsulated into liposomes and PLA microspheres following intravenous and endotracheal delivery. *J Control Release*, 31: 41-48.
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- Cerdeira AM, Goucha P, Almeida AJ (1998). Hydroxypropyl methylcellulose phthalate beads containing a model non-steroid anti-inflammatory drug. *Int J Pharm*, 164: 147-154.
- Paulo MG, Cabral Marques HM, Morais JAG, Almeida AJ (1999). An isocratic LC method for the simultaneous determination of vitamins A, C, E and -carotene. *J Pharm Biomed Anal*, 21: 399-406.
- Cerdeira AM, Gouveia LF, Goucha P, Almeida AJ (2000). Drug particle size influence on enteric beads produced by a droplet extrusion/precipitation method. *J Microencapsul*, 17: 733-741.
- Lavrador C, Almeida AJ, Cardoso LA (2002). Avaliacao in vitro de um injectavel subcutaneo para libertacao prolongada de um farmaco -agonista. *Rev Port Ci Vet*, 97: 29-34.
- Videira M, Botelho MF, Santos AC, Gouveia LF, Pedrosa de Lima JJ, Almeida AJ (2002). Lymphatic uptake of pulmonary delivered radiolabelled solid lipid nanoparticles. *J Drug Targeting*, 10: 607-613.
- Rodrigues M, Peirico N, Matos H, Gomes de Azevedo E, Lobato MR, Almeida AJ (2004). Microcomposites theophylline/hydrogenated palm oil from a PGSS process for controlled drug delivery systems. *J Supercrit Fluid*, 29: 175-184.

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Ferreira Almeida PJ, Moita J, Almeida AJ (2010). Electron microscopical characterisation of drug release from methacrylic acid-ethyl acrylate copolymer-coated cross-linked alginate-gelatine beads. *J Drug Deliv Sci Tech*. 20: 201-205.

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Vitorino C, Almeida AJ, Sousa JJ, Lamarche I, Gobin P, Marchand S, Couet W, Olivier, JC, Pais AACC (2014). Passive and active strategies for transdermal delivery using co-encapsulating nanostructured lipid carriers: in vitro vs in vivo studies. *Eur J Pharm Biopharm.* 86: 133-144.

Rodrigues MA, Tiago JM, Padrela L, Matos HA, Nunes TG, Pinheiro L, Almeida AJ, Gomes de Azevedo E (2014). New thermoresistant polymorph from CO₂ recrystallization of minocycline hydrochloride. *Pharm Res.* (2014) 31: 3136-3149.

Caetano LA, Almeida AJ, Goncalves LMD (2014). Approaches to tuberculosis mucosal vaccine development using nanoparticles and microparticles: a review. *J Biomed Nanotechnol.* 10: 2295-2316.

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Santos Ferreira I, Bettencourt A, Betrisey B, Goncalves LMD, Trampuz A, Almeida AJ (2015). Improvement of antibacterial activity of daptomycin-loaded polymeric microparticles by Eudragit RL100: an assessment by isothermal microcalorimetry. *Int J Pharm.* 485: 171-182.

Matos AC, Ribeiro IAC, Guedes RC, Pinto R, Vaz MA, Goncalves LM, Almeida AJ, Bettencourt AF (2015). Key-Properties outlook of levofloxacin-loaded acrylic bone cement for improved antibiotic delivery. *Int J Pharm.* 485: 317-328.

Matos AC, Marques CF, Pinto RV, Ribeiro IC, Goncalves LMD, Vaz MA, Ferreira JM, Almeida AJ, Bettencourt A (2015). Novel doped calcium phosphate-PMMA bone cement composites as levofloxacin delivery systems: exploring the concept. *Int J Pharm.* 490: 200-208.

Santos Ferreira I, Goncalves LMD, Kasper S, Betrisey B, Kikhney J, Moter A, Trampuz A, Bettencourt AF, Almeida AJ (2015). Activity of daptomycin and vancomycin-loaded poly-epsilon-caprolactone microparticles against mature staphylococcal biofilms. *Int J Nanomed.* 10: 4351-4366.

Marto J, Gouveia L, Jorge IM, Duarte A, Goncalves LM, Silva SMC, Antunes FE, Pais AACC, Oliveira E, Almeida AJ, Ribeiro HM (2015). Starch-based Pickering emulsions for topical drug delivery: a QbD approach. *Colloid Surface B*. 135: 183-192.

Ferreira IS, Bettencourt A, Almeida AJ (2015). Nanoparticulate platforms for targeting bone infections: meeting a major therapeutic challenge. *Nanomedicine*. 10: 3147-3166.

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Duran-Lobato M, Martin-Banderas L, Lopes R, Goncalves L, Fernandez-Arevalo M, Almeida AJ (2016). Lipid nanoparticles as an oral delivery platform for cannabinoids. *Drug Dev Ind Pharm*. 42: 190-198.

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Caetano LA, Almeida AJ, Goncalves LMD (2016). Effect of experimental parameters on alginate/chitosan microparticles for BCG encapsulation. *Mar Drugs*. 14: 90; doi:10.3390/md14050090.

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PARTICIPATION IN RESEARCH PROJECTS

Desenvolvimento de novas formas farmaceuticas de libertacao prolongada. PEDIP II (1995-1997). Coordinator.

Desenvolvimento de uma vacina contra a gurma dos equideos. SINDEPEDIP (1997-2000). Coordinator.

Sistemas transportadores para diagnostico e terapeutica imageologicos associados a circulacao linfatica pulmonar. FCT-Praxis XXI 2/2.1/SAU/1305/95 (1997-2000). Participant.

Producao, caracterizacao e estudos de libertacao de produtos farmaceuticos encapsulados usando fluidos supercriticos. FCT-POCTI/1999/EQU/34961 (2001-2004). Participant.

Therapeutic systems for the treatment of mycobacterial infections. FCT- POCTI/FCB/36416/99 (2002-2006). Participant.

New approach on the development of an efficient vaccine against streptococcal infection by

modulating the conditions of expression, production, purification and formulation. FCT-POCI/BIO/59147/2004; PPCDT/BIO/59147/2004 (2005-2008). Coordinator.

Protein Microencapsulation using supercritical fluids. FCT-POCI/EQU/55911/2004; PPCDT/EQU/55911/2004 (2005-2008). Participant.

Integrated methodologies for the development of bi and three-valent DNA-vaccines against *Helicobacter pylori*. FCT-PTDC/BIO/69242/2006 (2007-2010). Participant.

Controlled freezing to improve the stability and delivery of therapeutic proteins. FCT-PTDC/EQU-EQU/104318/2008 (2010-2013). Participant.

The use of nanobiomaterials for structural and functional protection of human phenylalanine hydroxylase: towards a new approach to phenylketonuria treatment. FCT-PTDC/EBB-BIO/101237/2008 (2010-2013). Coordinator.

A challenge for the treatment of parasitic diseases: rational design of Trifluralin derivatives and appropriate nanoformulations. FCT-PTDC/CVT/098290/2008 (2010-2013). Participant.

Polinanobiofilm - Polymeric therapeutic nanoparticles containing an antimicrobial agent: new opportunities for the development of anti-biofilm agents to treat prosthetic joint infections. FCT-EXCL/CTMNAN/ 0166/2012 (2012-2015). Participant.

Fighting TB: Development of microparticulate systems to target alveolar macrophages in tuberculosis therapy. FCT-PTDC/DTP-FTO/0094/2012 (2012-2015). Participant.

Dualbiosome - Estrategia nanotecnologica para o tratamento de infeccoes pulmonares cronicas em doentes com fibrose quistica. Financiado pelo Programa Gilead Genese (PGG/029/2013). Coordinator.

Caracterizacao da actividade de antibioticos nanoencapsulados contra biofilmes bacterianos por hibridacao fluorescente in situ". Financiado pela FCT no ambito das Accoes Integradas Luso-Alemas (FCT/DAAD - 2015/2017). Coordinator.

Human phenylalanine hydroxylase and nanobiomaterials: a novel enzyme reposition therapy approach to PKU. Financiado pela National PKU Alliance (USA). Co-coordinator.

LungShield - Medical Device for NBQr defence. Financiado pelo Ministerio da Defesa (CINAMIL 02_2018). Coordinator.

Dual nanostructured lipid carriers as a multifunctional platform for brain tumor therapy. Projecto em colaboracao com o CNC, Coimbra. Financiado pela FCT (PTDC/CTM-NAN/2658/2014). Participant.

ProtCrop4Health - Novos co formulantes verdes para o desenvolvimento de produtos fitofarmacuticos promotores de uma agricultura sustentavel e da melhoria da saude humana. Financiado pelo Programa Operacional Regional de Lisboa (LISBOA-01-0247-FEDER-024016). Participant.

Memberships

Other Relevant Information