



HUGO MIGUEL M. MACEDO
 Flat 66 (17th Floor) Sparkford House
 Battersea Church Road
 LONDON SW11 3NQ
 England, UK

PHONE: +44 (0) 75 90 698 705
 E-MAIL: hugo@hugomacedo.com
 Web-SITE:
<http://www.hugomacedo.com/>

Curriculum Vitae

MACEDO, Hugo Miguel Magalhães

Personal Information

I.D. N/A
 Marital status Single
 Nationality Portuguese
 Date of birth 17th November 1982
 Place of birth Arco de Baulhe - Cabeceiras de Basto
 Driving licence Light vehicles (FA – 169987 9)

Education

Imperial College of London 01/08/2011 – present
Post-Doctoral Research Associate in Tissue Engineering
“A Novel 3D Hollow Fiber Bioreactor for the Production of Human Red Blood Cells”
 Imperial College of London 01/10/2006 – 31/07/2011
PhD in Tissue Engineering
“A Novel 3D Hollow Fiber Bioreactor for the Production of Human Red Blood Cells”
 FCT-New University of Lisbon 21/09/2000 - 21/02/2006
Degree in Chemical Engineering

Objective

Entrepreneurship

Awards

Finalist at the Biotechnology Young Entrepreneurs Scheme (YES) 2010, organized by the EPSRC and University of Nottingham, with the company *HemaStem*, London 2010.

First prize at the Chemical Engineering PhD Symposium 2010, chosen by a panel of Academics and Industrial partners, Imperial College London 2010.

Final Round Selection at the Design London Entrepreneurial Bootcamp 2009, organized by DesignLondon, with the company *Smart Separations*.

Green Belt Certificate for Lean Six Sigma by the British Standards Institution, 2009.

Final 8 (out of over 360) ideas at the entrepreneurial competition START 2008 promoted by Microsoft and Portuguese bank BPI, with a Business Plan for the development of the company *QuimexPor*.

PhD scholarship SFRH/BD/28138/2006 by the Portuguese Foundation for the Science and Technology from October 2006 to September 2010

Diploma of Excellency in the Escola Básica 2, 3 nº2 of Albufeira, for the year 95/96

Scholarship for **merit performance**, during the years 98/99 and 99/2000, in Secondary School of Albufeira

Languages

MOTHER TONGUE **Portuguese**

OTHER LANGUAGES	English	Spanish	Italian	French
• Reading skills	excellent	good	good	basic
• Writing skills	excellent	basic	basic	basic
• Verbal skills	excellent	good	good	basic

Communications

- 1 **Hugo Macedo**, Maria Rende, Andrew G. Livingston, Kang Li, Nicki Panoskaltis, and Athanasios Mantalaris; *Long-Term, Cytokine-Free Ex Vivo Expansion of Human Cord Blood Mononuclear Cells Using a Novel Closed-Loop 3D Dual Hollow Fibre Perfused Bioreactor*; oral presentation for the 52nd ASH Annual Meeting and Exposition 2010; Orlando, FL; December 2010.
- 2 **H. Macedo**, M. Rende, B. Kingsbury, T. Mortera-Blanco, I. Baptista, K. Li, N. Panoskaltis, A. Mantalaris, A.G. Livingston; *Towards the large-scale production of blood – a novel 3D hollow fibre bioreactor*; oral presentation for the Chemical Engineering PhD Research Symposium 2010, Imperial College London, 2010 (**awarded with the first prize for best presentation**);
- 3 **Macedo, H.**; Baptista, I., Livingston, A.; Mantalaris, A.; *Membrane Technology for Tissue Engineering*, Poster for Engineering with Membranes 2008, Vale do Lobo, Algarve (Portugal), 25-28 May 2008;
- 4 Techanukul, T., Pereira, F., **Macedo, H et al.**; *Optimisation of Label Free Intrinsic Imaging (LFII™) to complement 2D gel electrophoresis*, Poster for the GOT Summit, Boston, MA, 19-21 May 2008
- 5 **Macedo, H.**; Livingston, A.; Mantalaris, A.; *Membrane Technology in Haematopoiesis*; 1st NTU-Imperial College Symposium; Singapore, 2007
- 6 Martins, S.; **Macedo, H.**; Sotomayor, J.; *Preparation of Dimethacrylate-Base Resins/E7 Composites by Thermal and Photopolymerization With a View to a PDLC Film*, Poster for REQUIMTE 2006 (Portugal)

Patents

H. Macedo, N. Panoskaltis, A.G. Livingston and A. Mantalaris; 3-Dimensional Hollow Fibre Bioreactor Systems for the Maintenance, Expansion, Differentiation and Harvesting of Human Stem Cells and Their Progeny; **PCT application filed November 2010.**

Papers / Book Chapters

- 1 **H. Macedo**, M. Rende, B. Kingsbury, T. Mortera-Blanco, K. Li, N. Panoskaltis, A. Livingston, A. Mantalaris; *A Novel 3-Dimensional Hollow Fibre Bioreactor for Stem Cell Bioprocessing*; Biomaterials 2011 (in preparation).
- 2 Jae Min Cha, Christian Bariani, I-Ming Chung, Siti Ismail, Iliana Fauzi, David C. L. Yeo, Idtisak Paopo, Teresa Mortera Blanco, Maria Rende, **Hugo M. Macedo**, Supacharn Tangviriyasirikul, Athanasios Mantalaris. *Bioprocessing applications to Embryonic Stem Cells: in vitro generation of bone, cartilage and heart cells*. Expert Opinion on Biological Therapy. (2011) (submitted).
- 3 K. Song, **H. Macedo**, N. Panoskaltis and A. Mantalaris; *Ex vivo expansion of encapsulated human cord blood (HCB) CD34+ cells in a rotating wall bioreactor*; Biomaterials 2011 (submitted).
- 4 Song, K.; Liu, Y.; Wang, H.; Liu, T.; Fang, M.; Shi, F.; Ma, X.; **Macedo, H.**; Ma, X.; Cui, Z.; *Ex Vivo Expansion of Human Umbilical Cord Blood Hematopoietic Stem/Progenitor Cells with Support of Microencapsulated Rabbit Mesenchymal Stem Cells in a Rotating Bioreactor*; Tissue Engineering and Regenerative Medicine, 8(3): 334-345, March 2011.
- 5 Song, K.; Xiubo, F.; Tianqing, L.; **Macedo, H.**; Lili, J.; Fang, M.; Shi, F.; Ma, X.; Cui, Z.; *Simultaneous expansion and harvest of hematopoietic stem cells and mesenchymal stem cells derived from umbilical cord blood*; J Mater Sci: Mater Med, 21: 3183-3193, October 2010.

- 6 Song, K.; Wen, Z.; Yin, Y.; Lv, C.; Liu, T.; **Macedo, H.**; Fang, M.; Shi, F.; Ma, X.; Cui, Z.; *Co-culture of Hematopoietic Stem Cells and Mesenchymal Stem Cells Derived from Umbilical Cord Blood using Human Autoserum*; Asia-Pacific Journal of Chemical Engineering, July 2010, DOI: 10.1002/apj.
- 7 Song, K.; Qiao, M.; Liu, T.; Jiang, B.; **Macedo, H.**; Ma, X.; Cui, Z. *Preparation, fabrication and biocompatibility of novel injectable temperature-sensitive chitosan/glycerophosphate/collagen hydrogels*; J Mater Sci: Mater Med, 21: 2835-2842, July 2010.
- 8 H. Ye, Z. Cui, M. J Ellis, J.B. Chaudhuri, **H. Macedo**, A. Mantalaris, *Hollow fibre membrane bioreactor technology for tissue engineering and stem cell therapy*, In: Comprehensive Membrane Science and Engineering (Eds. E Drioli and L Giorno), ELSEVIER, ISBN-13: 978-0-444-53204-6, 2010.
- 9 A. Mantalaris, N. Panoskaltis, K. Song and **H. Macedo**; *Ex vivo expansion of encapsulated human cord blood (HCB) CD34+ cells in a rotating wall bioreactor*; Experimental Hematology, Vol. 37, Iss. 9, Supp. 1, 2009.
- 10 **H. Macedo** et al.; *A novel 3D hollow fibre reactor for the culture of human haematopoietic cells*; Experimental Hematology, Vol. 37, Iss. 9, Supp. 1, 2009;
- 11 Placzek, M., Chung, I., **Macedo, H.**, et al., "Stem Cell Bioprocessing: Fundamentals and Principles" – Review paper; J R Soc Interface; **6** (32): 209-232, 2009.
- 12 Ferreira, F., **Macedo, H.**, Cocchini, U., Livingston, A., "Development of a Liquid-Phase Process for Recycling Resolving Agents within diastereomeric resolutions"; *Org. Process Res. Dev.*, **10** (4), 784-793, 2006.
- 13 **Macedo, H.**; Ricardo, A.; Sotomayor, J.; *J. Chem. Ed.*, **83** (6), 915, 2006.

Scientific works

Most important research work conducted to the date.

Membrane technology for applications in Tissue Engineering and Regenerative Medicine (Imperial College London)

"Production and Characterization of a PDLC. New strategies of polymerization and impregnation in CO₂ supercritical" (Lisbon, Portugal)

Development of Control Processes using a control apparatus for teaching purposes (Lisbon, Portugal)

Development of Pilot scale work for teaching purposes (Lisbon, Portugal)

Construction of an apparatus in the University, for teaching purposes, related to the subject "Adsorption studies", with a budget of 5.000€, with 19 points"

Competences and technical skills

"Technology, when correctly used, is the best ally of success"

Advanced Applications in Flow Cytometry workshops, Imperial College London, 2009 and 2010

Green Belt for Lean SixSigma Course by the *British Standards Institution (BSI)*, Imperial College London, 2008

Development of software with MS EXCEL, for calculations related to Adsorption and FTIR spectra analysis, using Visual Basic

Knowledge of MS EXCEL at the programming level; MS WORD; Internet Explorer; MS POWERPOINT; MS Access; Visual Basic; ASPEN Plus; gPROMS; ChemCAD

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Competences and Organizational skills

Coordination and administration of people, projects and budgets have given me a wide range of knowledge for seeing people and things from a different point of view

Representative of all the students of Faculty of Sciences and Technology in the University of Lisbon Council (2005/2006)

President of the Commission of Residents of the Fraústo da Silva's Pension Hall, for two mandates: 2002/2003 and 2003/2004

Organization of the VIIth Technological Days of Chemical Engineering (JORTEC 2004), under the theme: "New Energies, New Materials, New Challenges...", 2004 (extra-curricular)

Representative in the Pedagogic Commission of the students of Chemical Engineering, for the years 2003/2004 and 2004/2005

President of the Commission of Course of Chemical Engineering 2000/2005

Conferences

Bioreactor Course Design 2011, Keele University, Keele, UK, 2011;

American Society of Haematology (ASH), Orlando, FL, December 2010;

Chemical Engineering PhD Symposium, Imperial College London, March 2010;

International Society of Experimental Haematology (ISEH) *38th Annual Scientific Meeting*, Athens, 9-12 September 2009;

European Membrane House, "Membranes in Medicine", Lisbon, 9-10 February 2009.

XXV Summer School of the European Membrane Society, "Solvent resistant membranes", Leuven: September 7-11, 2008;

InSolEx Professional Skills Workshop, "Cutting Edge Consultants", Crete (Greece), 2-3 June 2008;

Engineering with Membranes 2008, "Membrane Processes: Development, Monitoring and Modelling - From the Nano to the Macro Scale", Vale do Lobo, Algarve (Portugal), 25-28 May, 2008;

European Society of Haematology, "Biology and Clinical Applications of Cord Blood Cells", Paris, 19-21 October 2007;

Third Annual NanoMemPro meeting, IBET, Lisbon (Portugal), 26-28 September, 2007;

Workshop on Artificial Organs, Thrid Annual NanoMemPro meeting, IBET, Lisbon (Portugal), 26th September, 2007;

1st NTU-Imperial College Symposium; Singapore, 2007

Other activities

Participant in the club ImperialEntrepreneurs.com since 2006, dedicated to promote entrepreneurship amongst students at Imperial College London;

Participation in the GLOBAL MANAGEMENT CHALLENGE 2006, with the second place (in 8 teams) in the first round

Hobbies

Physics, painting, football, astronomy, chess, tennis

London, the 23rd November 2011

Hugo Miguel Magalhães Macedo