

Meriem Lamghari Moubarrad

Born in Marrakech, Morocco.

CONTACT

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ACADEMIC QUALIFICATIONS

- PhD in Biologie Osteoarticulaire, Biomecanique et Biomatériaux. Université Jussieu Paris VII – Paris, France, December 1999.
- DEA- Diplome d'Etudes Approfondies. Université Jussieu Paris VII - Paris, France, July 1995.
- Maitrise de Biologie Cellulaire. Université Jussieu Paris VII - Paris, France, September 1994
- Licence de Biologie - Université Jussieu Paris VII - Paris, France, September 1993

PRESENT POSITIONS

- Leader of Neuro-osteogenesis team-INEB, since 2009
- Auxiliary Researcher at INEB-*Instituto de Engenharia Biomédica*, University of Porto, since December 2005.
- Affiliated Professor at Instituto de Ciências Biomédicas Abel Salazar, since 2014

AREA OF SCIENTIFIC ACTIVITY

Bone Regeneration

Most, if not all, skeletal diseases have a significant impact on overall health and quality of life for every human being. Therefore, interdisciplinary efforts in fundamental bone biology are dedicated to understand the process of bone repair and explore different strategies to reach successful bone regeneration.

The focus of my research is to:

- 1- Understand the involvement of the nervous system in bone homeostasis and repair. The strategy is based on mechanistic studies, i) to dissect the role of neuronal factors and their receptors, in bone repair and the feedback regulation exerted from bone to the brain and ii) to develop therapeutic applications based on neuropeptides receptors drugs target for bone repair.
- 2- Modulate the biological responses to biomaterials to enhance bone repair

DOMAIN OF SPECIALIZATION

- The involvement of the neuronal pathways in bone regeneration and therapeutic applications based on Neuropeptides receptors drugs target for bone repair.
- In vitro and in vivo studies of the biological reactions to biomaterials in the context of bone tissue engineering

PRESENT RESEARCH INTERESTS

- Targeting of neuropeptide receptors in osteoblasts as a strategy for prevention and treatment of bone loss,
- Role of bone innervation/re-innervation in bone homeostasis and repair
- Role of neurotransmitters of the peripheral nervous system in the particle-induced osteolysis in patients with implant aseptic loosening.
- The in vivo evaluation of the capacity of an immunomodulatory biomaterial to enhance bone regeneration

Keywords: Bone regeneration, Neuropeptides, Nervous system, Osteogenesis, Bone remodeling, Bone repair

ACADEMIC AND PROFESSIONAL EXPERIENCE

- Auxiliary Invited Professor at *Faculty of Engineering Porto, University of Porto*, from 2008 to 2013.
- 2004: Visiting scientist at Garvan Institute of Medical Research - Sydney, Australia.
- 2000-2004: Post- doctoral Researcher at INEB

EDUCATIONAL ACTIVITIES

TEACHING IN POST-GRADUATE PROGRAMMES

- 2010-2011: Integrated MSc Course in Bioengineering, FEUP.
- 2008-2011: PhD and MSc Programme in Biomedical Engineering, FEUP.

LECTURER IN POST-GRADUATE PROGRAMMES

- 2011: MSc Course in Biochemical technology and Health, Escola Superior de Tecnologias de Saúde do Porto, Instituto Politécnico do Porto.
- 2011: Tissue Engineering module of the GABBA Program
- 2001: Advanced Courses in Cell-Materials Interactions, INEB (Porto).

OTHER RELEVANT SCIENTIFIC ACTIVITIES

- Expert for funding agencies: FCT (Health) and UP
- Referee of Scientific Journals
- Representative of INEB at IBMC/INEB Associate Laboratory Animal House organization committee (CAB) (since 2008)
- Representative of INEB at IBMC/INEB Associate Laboratory Animal Ethics Committee (since 2008)
- Organization of scientific events and Initiatives for enhancing public awareness of science
- Member of Ph.D and Master thesis juries

PARTICIPATION IN SCIENTIFIC PROJECTS

- Period: 2013-2017
 GLISTEN: GPCR-Ligand Interactions, Structures, and Transmembrane Signalling: a European Research Network. CMST COST Action CM1207.
 Project leader: Peter Kolb
- Period: 2011-2015
 NAMABIO- From NAno to MAcro BIOMaterials (design, processing, characterization, modeling) and applications to stem cells regenerative orthopedic and dental medicine. Cost Action MP1005.
 Project Leader: Franco RUSTICHELLI
- Period: 2013 – 2015
 Ytag - Y1 receptor based therapy for local bone repair: Antagonist behavior and delivery in challenged bone microenvironment. Ref^a project: PTDC/BIM-MED/1047/2012 .
 Project Leader: Meriem Lamghari
- Period: 2012-2014
 IMAGING FLOW CYTOMETRY AS A TOOL FOR Y1R ANTAGONIST CHARACTERIZATION AS A DRUG FOR BONE REGENERATION
 Financing Institution: INEB - INTERNAL PROJECTS IN BIOIMAGING 2011
 Project Leader Inês Soares Alencastre
- Period: 2010 - 2013
 NPwhy - Innervation and angiogenesis for the benefit of osteogenesis: the involvement of NPY neuronal pathway in bone repair. Ref^a project: PTDC/SAU-OSM/101469/2008
 Project Leader: Meriem Lamghari
- Period: 2010-2013
 MIMESIS: MARINE INVERTEBRATES MODELS & ENGINEERED SUBSTRATES FOR INNOVATIVE BIO-SCAFFOLDS
 Financing Institution: Cariplo Foundation
 Project Leader: Candia Carnevali (Università degli Studi di Milano, Dipartimento di Biologia)
- Period: 2010 - 2013
 BIOMATRIX-Multifunctional extracellular matrix-analogues as biomaterials for bone regeneration
 Ref^a project:PTDC/SAU-BEB/101235/2008
 Project Leader:Cristina C Barrias
- Period: 2010 - 2013
 Sistema híbrido injectável libertador de estrôncio para utilização em vertebroplastia
 Hybrid Sr-releasing injectable system for vertebroplasty
 Ref^a project:PTDC/CTM/103181/2008
 Project Leader: Cristina Ribeiro
- Period: 2010 - 2013
 Incorporação de sinais inflamatórios em biomateriais:uma estratégia integradora para promover a reparação/regeneração óssea
 Ref^a project:PTDC/SAU-BEB/099954/2008
 Project Leader: Mario.A Barbosa

- Period: 2004-2007

FEPA - Core laboratories for the improvement of medical devices in clinical practice from the failure of the explanted prostheses analysis (COST Action 537).

Project Leader: R. Barbucci

- Period: 2005-2006

Effect of leptin hormone on bone remodelling (in osteoporosis).

Funding: Grant from Instituto de Engenharia Biomédica (INEB)

Project Leader: Meriem Lamghari

- Period: 2001-2004

Extracellular effect of Ca++ on osteogenesis and chondrogenesis: Cbfa1 regulation.

Funding: Grant from Instituto de Engenharia Biomédica (INEB)

Project Leader: Meriem Lamghari

- Period: 1999 - 2001

GAUCHER: Bioactive biomaterials as support for the immobilisation and subsequent in vivo release of Imiglucerase: A new therapeutic approach for the treatment of Gaucher's Disease".

Project Leader: Mario.A Barbosa

SUPERVISION OF SCIENTIFIC WORKS

POST-DOCTORAL RESEARCHERS

- Ines Soares Alencastre. Study of NPY system in bone regeneration: Development of Y1 receptor antagonist therapeutic strategy for bone repair (January 2011- December 2014).

- Cecilia Juliana Alves. Bone neovascularization and re-innervation in favor of bone regeneration: role of NPY neuronal system. (September 2010 – September 2014).

PhD STUDENTS

- Estrela Neto. Innervation and angiogenesis in bone healing: role of NPY. FMUP, Portugal (01/2012-present).

- Manuel Silva. Involvement of the peripheral nervous system in the inflammatory response associated to aseptic loosening of hip arthroplasty. FMUP, Portugal (01/2010-present).

Co-supervisor: Professor Trigo Cabral and Professor Gilberto Costa, Orthopedic service of São João Hospital, Porto, Portugal.

- Daniel Vasconcelos. The role of metallic ions on mesenchymal stem cells recruitment and differentiation. ICBAS (2011-present).

Supervisor: MA Barbosa

Cosupervisor: Meriem Lamghari

- Daniela Sousa. NPY Signalling Pathway in Bone Homeostasis: Y1 Receptor as a Potential Drug Target. FEUP, Portugal (01/08- 12/12). Currently team member of Ytag Project, Financing Institution: FCT, Portugal

MSc STUDENTS

- Diogo Menezes Borges. Evaluation of the effects of NPY Y1R-blockade in Osteoblast/Osteoclast cell cultures. (February 2014- December 2015)

Supervisor: Dr Ines Alencastre, INEB, Porto, Portugal

- JP Martins, "The crosstalk between injured bone and nervous system: cytokines as mediators", FEUP (April 2013- December 2014).

supervisor: Dr Cecilia Juliana Alves

- Sofia Ferreira. Innervation and angiogenesis interactions in bone repair. FCUP (September 2010-December 2011).
Co-supervisor: Professor Raquel Soares, Centre of Pharmacology and Chemical Biopathology, Faculty of Medicine, Univ. Porto
- Estrela Neto. Bone and nervous system interactions: in vitro cocultures comprising osteoblasts and neuronal cells. FEUP (September 2009-October 2010).
- Liliana Teixeira. Bone remodeling: regulation by central nervous system. FEUP (September 2006-December 2007)
- Leonor de Noronha. Effect of extracellular calcium on osteogenesis through calcium sensing receptor. FEUP (October 2001 – April 2006).
Supervisor: Professor Mário Barbosa, INEB, Porto, Portugal
- Diana Leite. Design of a controlled delivery system of a therapeutic agent to promote osteogenesis (Julho 2011 – Outubro 2012).
Supervisor: Dr Ines Alencastre, INEB, Porto, Portugal
- Joana Machado Santos. Role of peripheral nervous system and neuropeptides in the modulation of the inflammatory response associated to osteolysis (April 2011 – December 2012).
Supervisor: Dr Ana Paula Pego, INEB, Porto, Portugal

INTEGRATED MSC IN BIOENGINEERING, FEUP

- Carla Bibiana Santos. Análise de falhas de próteses totais da anca. FEUP/ICBAS (Novembro 2010 – Julho 2011). Supervisor: Dr Fatima Pina, INEB, Porto, Portugal.
- Claudia Ferreirinha. Técnicas e métodos rápidos para detecção de Escherichia coli com base na extracção e detecção da enzima β -glucuronidase. FEUP/ICBAS (January 2011 – June 2011). Supervisor: Dr Ana Paula Pego, INEB, Porto, Portugal and Dr Gerardo González Aguilar, INESC, Porto, Portugal.
- Gil Costa Machado. Role of receptor activator of nuclear kappa B ligand (RANKL) in the modulation of osteolysis in primary and revision arthroplasty (January 2012 – June 2012). Supervisor: Professor Mario. A Barbosa, INEB, Porto, Portugal

RESEARCH ASSISTANT

- Diana Silva (2013-2014)
- Antonio Ribeiro (2010-2013)
- João Ribas (2010-2011)
- Estrela Neto (2010-2011)
- Ines estveão (2008-2011)
- Susana Carrilho (2002-2004)

RESEARCH TRAINEES

- Nelson José Abreu Domingues (2010)
- Diogo Rodrigues (2008)
- 2002-2006:
 - Rafael Guedes de Sousa,
 - João Diogo Geada Trigo Calheiros de Figueiredo,
 - Marian Texeira Cerqueira,
 - Ligia Tavares,
 - Maria Leonor Miller Fleming,
 - Nuno Miguel Guimarães de Sá Camboa,
 - Sonia Melo.

HONORS AND AWARDS

CO- AUTHORSHIP OF AWARDED WORKS

- Award at Bioimaging 2013: International symposium in applied bioimaging from molecule to man. EC Neto , R Fernandes, R Almeida and M Lamghari. Bone and Peripheral Nervous System: One scenario, several ways of imaging . Bioimaging 2013, 3-4 October 2013.
- ImmunoTools Award 2013 (April 2013) Project: Innervation and Angiogenesis in Bone Healing: Role of Neuropeptide Y. E Neto and M Lamghari.
- Award by the European Science Foundation in the framework of the project REMEDIC. EC Neto, P Aguiar, R Almeida and M Lamghari. Quantitative method for assessing axonal outgrowth on microfluidic devices. . Bioimaging 2012, September 20-21, 2012

PUBLICATIONS AND COMMUNICATIONS

PUBLICATIONS

THESIS

- Lamghari M. Study of osteogenic effect of nacre in vertebral bone. PhD Thesis. Université Jussieu Paris VII – Paris, France, December 1999.

PAPERS IN INTERNATIONAL REFEREED JOURNALS

1-Neto E, Alves CJ, Sousa D, Alencastre I, Lourenço A, Leitão L, Ryu HR, Jeon NL, Aguiar P, Almeida R, Lamghari M. Bone and Sensory Neurons: Close Partners in a Microfluidic Platform. Manuscript ID IB-ART-11-2013-040234 *Integrative Biology, Under revision*.

2- Sousa DM, McDonald MM, Mikulec K, Lauren Peacock L, Herbert Herzog H, Lamghari M, Little DG, Baldock PA. Neuropeptide Y modulates fracture healing through Y1 receptor signaling.. *J Orthop Res*. 2013 Oct;31(10):1570-8. doi: 10.1002/jor.22400. Epub 2013 Jun 3..

3- Santos SG, Lamghari M, Almeida CR, Oliveira MI, Neves N, Ribeiro AC, Barbosa JN, Barros R, Maciel J, Martins MC, Gonçalves RM, Barbosa MA. *Acta Biomater*. 2013 Apr 6. doi:pil: S1742-7061(13)00180-3. 10.1016/j.actbio.2013.04.008.

4- SOUSA DM, Baldock PA, , Enriquez RF, Zhang L, Lamghari M, Herzog H. Neuropeptide Y1 receptor antagonism increases bone mass in mice. *Bone*. 2012 Jul;51(1):8-16. Epub 2012 Mar 28

5- FRANQUINHO F, - LIZ MA, NUNES AF, NETO E, LAMGHARI M, SOUSA MM. Neuropeptide Y and osteoblast differentiation - the balance between the neuro-osteogenic network and local control. *FEBS J*. 2010 Sep;277(18):3664-74.

6- Nunes AF; Liz, M; Teixeira L; Chenu, C; Lamghari M; Sousa MM. Neuropeptide Y expression in osteoblasts: insights from transthyretin knockout mice. *FEBS J*. 2010 Jan;277(1):263-75.

7- Vasconcelos A, Pe^go AP, Henriques L, Lamghari M, Cavaco-Paulo A. Protein

Matrices for Improved Wound Healing: Elastase Inhibition by a Synthetic Peptide Model. *Biomacromolecules*. 2010, 11(9):2213-20.

8- Sousa DM, Herzog H, Lamghari M. NPY signalling pathway in bone homeostasis: Y1 receptor as a potential drug target. 2009. *Curr Drug Targets* 10(1):9-19.

9- Teixeira L, Sousa DM, Nunes AF, Sousa MM, Herzog H, Lamghari M. NPY revealed as a critical modulator of osteoblast function in vitro: new insights into the role of Y1 and Y2 receptors. 2009. *Journal of Cellular Biochemistry* 107: 908-916.

10- Sousa SR, Lamghari M, Sampaio P, Moradas-Ferreira P, Barbosa MA. Osteoblast adhesion and morphology on TiO₂ depends on the competitive preadsorption of albumin and fibronectin. *J Biomed Mater Res A*. 2008 Feb; 84(2): 281-90.

11- Lundberg P, Allison SJ, Lee N, Baldock PA, Brouard N, Rost S, Enriquez R, Sainsbury A, Lamghari M, Simmons P, Eisman JA, Gardiner EM, Herzog H. Greater bone formation of Y2 knockout mice is associated with increased osteoprogenitor numbers and altered Y1-receptor expression. *J Biol Chem*. 2007 Jun 29; 282(26):19082-91. Epub 2007 May 9

12- Lamghari M, Tavares L, Camboa N, Barbosa MA. Leptin effect on RANKL and OPG expression in MC3T3-E1 osteoblasts. *J Cell Biochem*. 2006 Aug 1; 98(5):1123-29.

13- LAMGHARI M, BARRIAS CC, Sá MIRANDA C, BARBOSA MA. Recombinant glucocerebrosidase uptake by Gaucher disease human osteoblast culture model. *Blood Cells Mol Dis*. 2005 Nov-Dec; 35(3): 348-54.

14- AMARAL IF, LAMGHARI M, SOUSA SR, SAMPAIO P, BARBOSA MA. Rat bone marrow stromal cell osteogenic differentiation and fibronectin adsorption on chitosan membranes: the effect of the degree of acetylation. *J Biomed Mater Res A*. 2005 Nov 1; 75(2): 387-97.

15- BARRIAS CC, LAMGHARI M, GRANJA PL, Sá MIRANDA C and BARBOSA MA. Biological evaluation of calcium alginate microspheres as a vehicle for the localised delivery of a therapeutic enzyme. *J Biomed Mater Res A*. 2005 Sep 15; 74(4):545-52.

16- BARRIAS CC, RIBEIRO CC, LAMGHARI M, MIRANDA CS, BARBOSA MA. Proliferation, activity, and osteogenic differentiation of bone marrow stromal cells cultured on calcium titanium phosphate microspheres. *J Biomed Mater Res*. 2005 Jan 1; 72A(1):57-66.

17- LOPEZ E, MILET C, LAMGHARI M, PEREIRA MOURIES L, BORZEIX S AND BERLAND S. The dualism of Nacre. *Key Engineering Materials* 2004 (254-256): 733-736.

18- MILET C, BERLAND S, LAMGHARI M, MOURIES L, JOLLY C, BERLAND S, DOUMENC D, LOPEZ E. Conservation of signal molecules involved in biomineralisation control in calcifying of bone and shell. *C.R.PALEVOL* 2004 (3): 493-501.

19- FERREIRA L, RAPHAELI A, LAMGHARI M, BARBOSA MA, GIL MH, CABRITA AMF, DORDRICK JF. In vitro and in vivo biocompatibility of dextran hydrogel obtained chemoenzymatically. *J Biomed Mater Res*. 2004 Mar 1; 68A(3):584-96.

20- LAMGHARI M., ANTONIETTI P, BERLAND S, HUET H, LAURENT A, BALMAIN N, LOPEZ E. Arthrodesis of lumbar spine transverse processes using nacre: preliminary study. *Journal of Bone and Mineral Research*. 2001 16 (12): 2232-2237.

21- LAMGHARI M., BERLAND S, HUET H, LAURENT A, E. LOPEZ. Bone reactions to nacre injected percutaneously in the vertebrae of sheep. *Biomaterials*. 2001 22 (6):555-562.

22-LAMGHARI M., HUET H, BERLAND S, LAURENT A, LOPEZ E. A model for evaluating injectable bone replacements in the vertebrae of sheep. Radiological and histological study. *Biomaterials*. 1999 20: 2107 – 2114.

23- LAMGHARI M, ALMEIDA MJ, BERLAND S, HUET H, LAURENT A, MILET C, LOPEZ E. Stimulation of bone marrow cells and bone formation by nacre: In vivo and In vitro studies. *Bone*. 1999 25 (2): 91s-94s.

OTHER PUBLICATIONS

1-Neto EC, Alves J, Ribas J, Ferreira S, Jeon NL, Ryu RH, Malva J, Almeida R, Lamghari M. Disclosing the underlying interaction between bone and peripheral nervous system: Optimization of coculture systems. *BONE* Volume: 50 Supplement: 1 Pages: S113-S113 DOI: 10.1016/j.bone.2012.02.347
Conference: 39th Annual Congress of the European-Calcified-Tissue-Society (ECTS)
Location: Stockholm, SWEDEN Date: MAY 19-23, 2012

2-Neto EC, Alves J, Ribas J, Ferreira S, Jeon NL, Ryu RH, Malva J, Almeida R, Lamghari M. Bone and peripheral nervous system interactions within bone tissue engineering perspective. *JOURNAL OF TISSUE ENGINEERING AND REGENERATIVE MEDICINE* Volume: 6 Special Issue: SI Supplement: 1 Pages: 387-387
Published: SEP 2012
Conference: 3rd TERMIS world congress 2012, "TISSUE ENGINEERING AND REGENERATIVE MEDICINE" Conference Location Vienna, Austria Date: SEPT 8-12 2012

3-Munarin, F. and Grellier, M. and Lamghari, M. and Tanzi, M.C. and Barbosa, M.A. and Petrini, P. and Granja, P.L. Rgd-grafted pectin microspheres for human mesenchymal stem cell delivery and in situ bone regeneration. 24th European Conference on Biomaterials - Annual Conference of the European Society for Biomaterials. Dublin; Ireland; 4 -8 September 2011.

4-Alves CJ, Rocha D, Summavielle T, Carvalho I, Lamghari M. Hypothalamic NPY expression during bone regeneration. *NEUROPEPTIDES* Volume: 44 Issue: 6 Pages: 533-533 Published: DEC 2010
Conference: 7th Joint Meeting of the European Neuropeptide Club and the American-Summer-Neuropeptide Conference Location: Pecs, HUNGARY Date: JUN 21-24, 2010

5-Sousa DM, Lamghari M. Osteoblast proliferation and apoptosis: role of Neuropeptide Y and Y1 receptor. *Bone* 2009; 44 (Suppl. 2): S299. Conference: 36th European Symposium on Calcified Tissues Location: Vienna, AUSTRIA Date: MAY 23-27, 2009.

6-Teixeira L, Sousa DM, Nunes AF, Mendes-Sousa M, Herzog H and Lamghari M. Neuronal signaling and the regulation of bone remodeling new insights into the role

of neuropeptide Y Y1 and Y2 receptors in osteoblast function. *Frontiers in Neuroscience* 2009. Conference Abstract: 11th Meeting of the Portuguese Society for Neuroscience. Braga, Portugal, 4 Jun - 6 Jun, 2009

7-Sousa, S. and Lamghari, M. and Moradas-Ferreira, P. and Barbosa, M. Effect of competitive preadsorption of HSA and FN on osteoblasts adhesion on TiO₂. 8th World Biomaterials Congress 2008, Volume 4, Page 2147- Amsterdam; Netherlands; May 28 – June 1th, 2008.

8-Teixeira, L.; Nunes, A.; Sousa, M.; Lamghari M. Neuropeptide Y Effect on Osteoblast Cells. *JOURNAL OF BONE AND MINERAL RESEARCH* Volume: 23 Pages: S245-S245 Published: SEP 2008

Conference: 30th Annual Meeting of the American-Society-for-Bone-and-Mineral-Research Location: Montreal, CANADA Date: SEP 12-16, 2008

9-Lamghari M. Leptin effect on RANKL and OPG expression in MC3T3-E1 osteoblasts. *JOURNAL OF BONE AND MINERAL RESEARCH* Volume: 21 Supplement: 1 Pages: S152-S152. Conference: 28th Annual Meeting of the American-Society-for-Bone-and-Mineral-Research, Philadelphia, PA, USA, SEP 15-19, 2006

COMMUNICATIONS

ORAL COMMUNICATIONS

- Lamghari M. Relevance of the osteogenic network in bone remodeling. Meeting on the Epidemiology of Hip Fractures. 16 -17 December 2013.
- Neto E, Aguiar P, Almeida R, Lamghari M. "Innervation process in bone homeostasis: microfluidics as a tool to understand an essential crosstalk". 4th CESB Symposium on Biomaterials in Regenerative Medicine. July 1-4, 2013; Sorrento, Italy.
- Alencastre IS, Almeida CR, Alves CJ, Leite D, Neto E, Sousa DM, Lamghari M, "Image Flow Cytometry: A New Approach For The Study Of Membrane Receptors", TERMIS 2013-eu, Istambul, Turkey (2013).
- Alencastre I, Almeida C, Leite D, Alves C, Sousa D, Neto E and Lamghari M. Characterization of an Y1R antagonist as a drug for bone regeneration. European Calcified Tissue Society (ECTS) 2013. 18-21 May, Lisbon, Portugal
- Neto E.C., Alves C.J., Lourenço A.F., Jeon N.L., Ryu H.R., Malva J.O., Almeida R., Summaveille T., Aguiar P., Lamghari M. Bone and peripheral nervous system interactions within bone tissue engineering perspective. 3rd TERMIS World Congress 2012, Vienna, September 5-8, 2012;
- Neto E.C., Alves C.J., Ribas J.C., Ferreira S.A., Lamghari, M. Nerve regeneration: A process under osteogenic control. ECTS 2012 39th Annual Congress. Stockholm, May 19-23, 2012;
- Alves C.J., Ribas J., Neto E., Ferreira S., Summavielle T., Lamghari M. NPY: a key system in bone regeneration? I3S Scientific Retreat 2012. Póvoa de Varzim, May 10-11, 2012;
- Neto E.C., Alves C.J., Lourenço A.F., Jeon N.L., Ryu H.R., Malva J.O., Almeida R., Lamghari M. Bone and peripheral nervous system interactions: Microfluidic chambers as a novel coculture system. I3S Scientific Retreat 2012. Póvoa de Varzim, May 10-11, 2012.
- D.M. Sousa, R. Enriquez, A. Sainsbury, P.A. Baldock, M. Lamghari, H. Herzog, "Anabolic effects induced by oral administration of NPY Y1 receptor antagonist

BIBO3304 in mice”, XXXI Congresso Nacional de Ortopedia e Traumatologia, Estoril, Portugal, October 19-21, 2011

- D.M. Sousa, R. Enriquez, A. Sainsbury, P.A. Baldock, M. Lamghari, H. Herzog, “Y1 receptor antagonism increases bone formation in mice”, JBMR Annual Meeting, San Diego, USA, September 16-20, 2011.
- Alves CJ, Ribas J, Summavielle T, Lamghari M. Altered central and peripheral NPY neuronal expression throughout bone regeneration process. 4th New York Skeletal Biology and Medicine Conference. New York, April 27-30, 2011.
- Neto EC, Alves CJ, Ribas J, Ferreira S, Lamghari M. Neurotrophic potential of osteoblast lineage: osteoblast and sensory neurons coculture. Tissue Engineering & Regenerative Medicine international society, TERMIS EU 2011 Annual Meeting. Granada, June 7-10, 2011.
- Sousa DM, Neto EC, Estêvão MI, Lamghari M. Role of NPY Y1 receptor signalling blockade on osteoblast activity. XII Meeting Portuguese Society for Neuroscience. May 26-28, 2011; Lisbon, Portugal.
- Ribas J, Alves CJ, Summavielle T, Lamghari M. Central and peripheral NPY-ergic pathways response to bone injury. XII Meeting of the Portuguese Neuroscience Society, Lisbon, May 26-28, 2011.
- Ferreira S, Neto E, Alves CJ, Ribas J, Lamghari M, Optimization of a coculture with endothelial and sensory neuronal cells. XII Meeting of the Portuguese Neuroscience Society, Lisbon, May 26-28, 2011.
- Alves CJ, Ribas J, Summavielle T, Carvalho I, Lamghari M. Establishment of animal model of non-critical bone defect in mice as tool for bone and nervous system cross-talk. I3S Scientific Retreat. Póvoa de Varzim, May 5-6, 2011.
- Sofia Ferreira, Estrela Neto, Cecília Juliana Alves, João Ribas, Meriem Lamghari, Optimization of a coculture with endothelial and sensory neuronal cells. I3S Scientific Retreat. Póvoa de Varzim, May 5-6, 2011.
- Sousa DM, Neto EC, Estêvão MI, Lamghari M. Role of NPY Y1 receptor signalling blockade on osteoblast activity. ANZBMS 20th Annual Scientific Meeting, September 5-8, 2010; Adelaide, Australia.
- Sousa DM, Neto E, Estêvão M, Rocha D, Summavielle T, Herzog H and Lamghari M. Neuropeptide Y1 receptor signaling blockade modulates osteoblast proliferation and survival. I3S scientific retreat. May 6-7, 2010; Póvoa do Varzim, Portugal.
- Sousa DM, Neto E, Lamghari M. Neuropeptide Y stimulates osteoblast proliferation: role of Y1 receptor. 10th Advanced Summer Course in Cell-Materials Interactions: from nature to clinics lectures, June 24-26, 2009; Porto, Portugal.
- Teixeira L, Sousa DM, Nunes AF, Sousa MM, Herzog H, Lamghari M. Neuronal signaling and the regulation of bone remodeling. New insights into the role of Neuropeptide Y Y1 and Y2 receptors in osteoblast function. 11th Meeting Portuguese Society for Neurosciences, June 4-6 2009; Braga, Portugal.
- Sousa DM, Lamghari M. Osteoblast proliferation and apoptosis: role of Neuropeptide Y and Y1 receptor. 36th European Symposium on Calcified Tissues, 23-27 May 2009; Vienna, Austria.
- Liliana Teixeira, Ana Filipa Nunes, Mónica M. Sousa, Herbert Herzog, Meriem Lamghari. Neuropeptide Y effect on osteoblast cells. American Society of Bone and Mineral Research (ASBMR) 29th Annual Meeting. Montreal, Quebec, Canada, September 12-16, 2008.
- Meriem Lamghari, Ligia Tavares, Nuno Camboa, Mario .A Barbosa. Leptin Effect on RANKL and OPG Expression in MC3T3-E1 Osteoblasts. American Society of Bone and Mineral Research (ASBMR) 28th Annual Meeting. Philadelphia, PA, USA, September 15 - 19, 2006.
- Sousa DM, Lamghari M. Neuropeptide Y stimulates osteoblast proliferation: role of Y1 receptor. 9th Advanced Summer Course in Cell-Materials Interactions: Bioinspired matrices for tissue regeneration, June 16-20, 2008; Porto, Portugal.

- XXIII Congresso Nacional de Ortopedia e Traumatologia. 26 -29 November 2003, Vila Moura, Portugal. Histologia e histomorfometria da osteoporose.
- Advanced course on Biomaterial-cells interactions, 1-5 July 2002, Porto, Portugal
The process of bone remodeling.
- Barrias CC, Lamghari MM, Sá Miranda C, Barbosa MA. Controlled release of Glucocerebrosidase from alginate beads: Release profiles and uptake by cells from Gaucher disease patients. 17th European Conference on Biomaterials. September 11-14, 2002, Barcelona-Spain
- Advanced course on Biomaterial-cells interactions, 12-20 June 2001, Porto, Portugal
Basics of bone Biology.
- Workshop "Therapeutical approaches on lysosomal storage diseases". 11-12 May 2000, Porto, Portugal. Mode d'action des biphosphonates sur le remodelage osseux.
- 20eme Congrès d'Orthopédie. 7 – 12 February 2000, Fort de France, Martinique
Arthrodesis of lumbar spine transverse processes using nacre. Preliminary study.
- 6e Journées de l'Institut Européen des Biomatériaux et de Microchirurgie. 23-24 September 1998, Nancy, France. Régénération osseuse en site vertébral après injection d'un biomatériau, la nacre chez le mouton.
- 9th European Meeting on Injectable Bone and Joint Substitution Materials (GRIBOI). 1-2 Mars 1999, Lausanne, Suisse. Nacre induced bone marrow cells stimulation and new bone formation. An in vivo and in vitro study.

POSTER COMMUNICATIONS

- Neto E, Aguiar P, Almeida R and Lamghari M. "Peripheral nervous system and bone: advanced tools to study an essential interaction". Congress of the European Society of Biomechanics, Patras, Greece, 25-28 August 2013.
- Neto E, Aguiar P, Almeida R, Lamghari M. "Microfluidic platform for cocultures: a step forward to understand the bone and peripheral nervous system interactions". EMBO Young Scientists' Forum, July 15-16, 2013; Lisbon, Portugal.
- Alencastre IS, Almeida CR, Leite D, Alves CJ, Neto E, Sousa DM, Lamghari M, "Characterization of an Y1R antagonist as a drug for bone regeneration", ECTS 2013, Lisbon, Portugal (2013).
- Neto E, Aguiar P, Almeida R, Lamghari M. Peripheral nervous system and bone: Advanced tools to study an essential interaction. XIII Reunião da Sociedade Portuguesa de Neurociências. June 30, 2013; Luso, Portugal.
- E. Neto, C. Alves, A. Lourenço, N. Jeon, H. Ryu, J. Malva, R. Almeida, T. Summaveille, P. Aguiar and M. Lamghari. "Bone and peripheral nervous system interactions within bone tissue engineering perspective", 3rd TERMIS World Congress 2012, Vienna, Austria, 5-8 September 2012.
- E. Neto, C. Alves, J. Ribas, S. Ferreira, M. Lamghari. "Disclosing the underlying interaction between bone and peripheral nervous system: optimization of coculture systems", 39th Annual congress ECTS 2012, Stockholm, Sweden, 19-23 May 2012.
- D.M. Sousa, P.A. Baldock, R.F. Enriquez, A. Sainsbury, M. Lamghari, H. Herzog. Therapeutic effects of orally administered Y1 receptor antagonist in bone mass. I3S scientific retreat. May 10-11, 2012; Póvoa do Varzim, Portugal.
- E. Neto, C. Alves, A. Lourenço, N. Jeon, H. Ryu, J. Malva, R. Almeida and M. Lamghari. "Bone and peripheral nervous system interactions: Microfluidic chambers as a novel coculture system", 3rd I3S scientific retreat. Póvoa do Varzim, Portugal. 10-11 May 2012.
- D. M. Leite, M. Lamghari, A.P. Pêgo. "Design of a controlled delivery system of a therapeutic agent to promote osteogenesis." 3rd I3S scientific retreat. Póvoa do Varzim, Portugal. 10-11 May 2012.
- C. J. Alves, J. Ribas, E. C. Neto, S. Ferreira, T. Summaveille, M. Lamghari. "NPY: a key system in bone regeneration?" 3rd I3S scientific retreat. Póvoa do Varzim,

Portugal. 10-11 May 2012.

- E. Neto, C.J. Alves, J. Ribas, S. Ferreira, M. Lamghari, "Osteoblasts lineage enhances neurite outgrowth during bone regeneration", XXXI Congresso Nacional de Ortopedia e Traumatologia, Estoril, Portugal, October 19-21, 2011.
- I.S. Alencastre, C.J. Alves, E.C. Neto, J. Ribas, S. Ferreira, M. Lamghari, "In vitro characterization of a fluorescent nonpeptide NPY Y1 receptor antagonist as a pharmacological tool for bone regeneration therapies", XXXI Congresso Nacional de Ortopedia e Traumatologia, Estoril, Portugal, October 19-21, 2011.
- C. J. Alves, J. Ribas, T. Summavielle, M. Lamghari, "Central and peripheral NPY neuronal pathways showed to be affected during bone repair process", XXXI Congresso Nacional de Ortopedia e Traumatologia, Estoril, Portugal, October 19-21, 2011.
- Alves CJ, Ribas J, Summavielle T, Lamghari M. Altered central and peripheral NPY neuronal expression throughout bone regeneration process. 4th New York Skeletal Biology and Medicine Conference. New York, April 27-30, 2011.
- Neto EC, Alves CJ, Ribas J, Ferreira S, Lamghari M. Neurotrophic potential of osteoblast lineage: osteoblast and sensory neurons coculture. Tissue Engineering & Regenerative Medicine international society, TERMIS EU 2011 Annual Meeting. Granada, June 7-10, 2011.
- D.M. Sousa, R. Enriquez, A. Sainsbury, P.A. Baldock, M. Lamghari, H. Herzog, "Y1 receptor antagonist increases bone formation in mice", JBMR Annual Meeting, San Diego, USA, September 16-20, 2011.
- Sousa DM, Neto EC, Estêvão MI, Lamghari M. Role of NPY Y1 receptor signalling blockade on osteoblast activity. XII Meeting Portuguese Society for Neuroscience. May 26-28, 2011; Lisbon, Portugal.
- Ribas J, Alves CJ, Summavielle T, Lamghari M. Central and peripheral NPY-ergic pathways response to bone injury. XII Meeting of the Portuguese Neuroscience Society, Lisbon, May 26-28, 2011.
- Ferreira S, Neto E, Alves CJ, Ribas J, Lamghari M, Optimization of a coculture with endothelial and sensory neuronal cells. XII Meeting of the Portuguese Neuroscience Society, Lisbon, May 26-28, 2011.
- Alves CJ, Ribas J, Summavielle T, Carvalho I, Lamghari M. Establishment of animal model of non-critical bone defect in mice as tool for bone and nervous system cross-talk. I3S Scientific Retreat. Póvoa de Varzim, May 5-6, 2011.
- Sofia Ferreira, Estrela Neto, Cecília Juliana Alves, João Ribas, Meriem Lamghari, Optimization of a coculture with endothelial and sensory neuronal cells. I3S Scientific Retreat. Póvoa de Varzim, May 5-6, 2011.
- C.J. Alves, D. Rocha, T. Summavielle, I. Carvalho, M Lamghari, "Hypothalamic NPY expression during bone regeneration", Neuropeptides 2010- The 7th Joint Meeting of the European Neuropeptide Club and the American Summer Neuropeptide Conference. Pécs, Hungary. June 21-24, 2010.
- Sousa DM, Neto EC, Estêvão MI, Lamghari M. Role of NPY Y1 receptor signalling blockade on osteoblast activity. ANZBMS 20th Annual Scientific Meeting, September 5-8, 2010; Adelaide, Australia.
- Sousa DM, Neto E, Estêvão M, Rocha D, Summavielle T, Herzog H and Lamghari M. Neuropeptide Y1 receptor signaling blockade modulates osteoblast proliferation and survival. I3S scientific retreat. May 6-7, 2010; Póvoa do Varzim, Portugal.
- Sousa DM, Neto E, Lamghari M. Neuropeptide Y stimulates osteoblast proliferation: role of Y1 receptor. 10th Advanced Summer Course in Cell-Materials Interactions: from nature to clinics lectures, June 24-26, 2009; Porto, Portugal.
- Teixeira L, Sousa DM, Nunes AF, Sousa MM, Herzog H, Lamghari M. Neuronal signaling and the regulation of bone remodeling. New insights into the role of Neuropeptide Y Y1 and Y2 receptors in osteoblast function. 11th Meeting Portuguese Society for Neurosciences, June 4-6 2009; Braga, Portugal.
- Sousa DM, Lamghari M. Osteoblast proliferation and apoptosis: role of

Neuropeptide Y and Y1 receptor. 36th European Symposium on Calcified Tissues, 23-27 May 2009; Vienna, Austria.

- Líliliana Teixeira, Ana Filipa Nunes, Mónica M. Sousa, Herbert Herzog, Meriem Lamghari. Neuropeptide Y effect on osteoblast cells. American Society of Bone and Mineral Research (ASBMR) 29th Annual Meeting. Montreal, Quebec, Canada, September 12-16, 2008.
- Sousa DM, Lamghari M. Neuropeptide Y stimulates osteoblast proliferation: role of Y1 receptor. 9th Advanced Summer Course in Cell-Materials Interactions: Bioinspired matrices for tissue regeneration, June 16-20, 2008; Porto, Portugal.
- Meriem Lamghari, Ligia Tavares, Nuno Camboa, Mario A. Barbosa. Leptin Effect on RANKL and OPG Expression in MC3T3-E1 Osteoblasts. American Society of Bone and Mineral Research (ASBMR) 28th Annual Meeting. Philadelphia, PA, USA, September 15 - 19, 2006.
- Sá Miranda MC, Lamghari M, Barrias CC, Barbosa MA. Recombinant glucocerebrosidase uptake by human osteoblasts. The American Society of Human Genetics, Annual meeting 2005, 25-29 October 2005, Salt Lake city-USA

ORGANIZATION OF SCIENTIFIC EVENTS

CHAIRPERSON

- 8th Advanced Course in Cell-Material Interactions "Inflammation in tissue repair and regeneration" (co-Chair). Porto (18-22, 2007).

ORGANIZING COMMITTEE

- 10th Advanced Summer Course in Cell-Materials Interactions – Self-Assembly: From Nature to Clinics. Porto (22-26/06/09).
- 9th Advanced Summer Course in Cell-Materials Interactions – Bioinspired Matrices for Tissue Regeneration. Porto (16-20/06/08).
- 8th Advanced Course in Cell-Material Interactions – Inflammation in Tissue Repair and Regeneration. Porto (18–22/06/07).
- 6th Advanced Course in Cell-Material Interactions. Porto (20–24/06/05).
- 5th Advanced Course in Cell-Material Interactions. Porto (05–09/07/04).
- 4th Advanced Course in Cell-Material Interactions. Porto (28/06 –. 04/07/03)
- 3rd Advanced Course in Biomaterials. Porto (1-5/07/02).

MEMBERSHIP TO SOCIETIES

- Since 2010 - European Calcified Tissue Society (ECTS)
- Since 2009 - Sociedade Portuguesa de Neurociencia (SPN)
- Since 2011 - Tissue Engineering & Regenerative Medicine International Society (TERMIS)
- Since 2011 – AOSpine
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LANGUAGES

- Arabic: Native
- French, English and Portuguese: Fluent