

LUÍS MARQUES

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TECHNICAL EXPERTISE

Laboratory techniques	Widefield and Confocal Fluorescence Microscopy, High Content Screening, Live Imaging <i>(see hardware and software expertise below)</i> Cell culture (animal cells and bacteria) and sterile procedure Embryo micromanipulation and tissue / explant culture Cryostat sectioning Immunohistochemistry <i>tissue sections</i> <i>tissue whole-mount</i> Immunocytochemistry Molecular biology techniques biopsy PCR genotyping vector and viral constructs production transient and permanent expression of exogenous cDNA in animal cells transient and permanent knock-down of cellular proteins through siRNA RNA probes production <i>in situ</i> hybridization <i>tissue sections</i> <i>tissue whole-mount</i> Tissue and cell lysis + pulldown of cellular proteins and Western blot Small rodent animal handling DGAV certification (FELASA cat. B) Fused Filament Fabrication 3D Printing and simple computer-assisted 3D model generation
Hardware expertise	Leica DMI6000B HCS microscope Leica DMI8 SP8 confocal microscope Leica DMI4000 SPE confocal microscope Olympus BX51 widefield fluorescence microscope + TIS 23u274 camera Olympus BX60 widefield fluorescence microscope + Hamamatsu Orca R2 camera Zeiss SteREO Lumar V.12 fluorescence stereoscope Leica CM1860 UV cryostat Tecan HydroSpeed plate washer
Software expertise	Leica LAS X with MatrixScreener module for HCS Micro-Manager Open Source Microscopy Software FIJI (ImageJ): <i>image assembly, correction, filtering, qualitative and semi-quantitative fluorometry, stitching, macro programming</i> ThermoScientific Amira™ and Bitplane Imaris™: <i>3D imaging reconstruction, computational sectioning, 3D animations, tomography alignment, segmentation and quantification, statistics extraction</i> Ilastik: <i>machine-learning powered advanced image segmentation</i> Adobe Photoshop™ + Illustrator™: <i>image and plate assembly</i> Microsoft Office 365™ – Word™, Excel™, PowerPoint™ Slack and Microsoft Teams – <i>team collaboration and project management</i> Fusion360™ and Ultimaker Cura™ - <i>FFM 3D modelling and printing</i> Labstep™ - <i>Lab Inventory, Protocol Aggregator, and Electronic Lab Notebook</i>

AREA OF SCIENTIFIC ACTIVITY

Scientific Background	Developmental Biology: focus on vertebrate epaxial myogenesis Molecular biology of cellular ligands of the extracellular matrix, namely integrins, and related signaling pathways, using cell culture approaches and embryo studies
Previous research interests	Signaling pathways involved in the myogenic development of the mouse embryo downstream of the extracellular matrix / integrins engagement.

PROFESSIONAL EXPERIENCE

Portuguese Platform of BioImage (PPBI) Research Technician fellowship for Microscopy at the FCUL Microscopy Facility (www.fcultmfcampus.ulisboa.pt)	January 2018 to present
Research Technician fellowship for Microscopy Support for High – Throughput Screening and general microscopy	September 2014 to December 2017
PhD fellowship on " <i>Intracellular signaling downstream of integrins in early mouse myogenesis</i> " (SFRH/BD/42584/2007)	April 2008 to present (concluding)
Team member in PTDC/SAU-OB/103771/2008 (FCT) " <i>Changing extracellular matrix networks as regulators of transitions between epithelial and mesenchymal fates during embryogenesis.</i> "	January 2010 to 2012
Team member in PTDC/BIA-BCM/67437/2006 (FCT) " <i>More than putting cells into place during development: cell-extracellular matrix interactions in myogenesis.</i> "	January 2008 to 2010
Member of the European Network of Excellence "Cells into Organs" (www.cellsintoorgans.net)	September 2006 to 2009
Work concerning MSc project: " <i>The role of the PI3K/Akt signaling pathway in the development of the epaxial myotome in the mouse embryo</i> ", under the supervision of Dr. Sólveig Thorsteinsdóttir, at Centro de Biologia Ambiental (FCUL) / Extracellular Matrix group (IGC). Final thesis grade: 18	February 2007 to February 2008
Undergraduate student at the Netherlands Kanker Instituut – Cell Biologie / H1 (Plesmanlaan 121, 1066 Cx Amsterdam, The Netherlands) during undergraduate thesis / course internship in cell biology: " <i>Looking For Novel Binding Partners To The β_4 Integrin Sub-Unit</i> ". Work developed under supervision of Dr. Arnoud Sonnenberg (group leader), Dr. Kevin Wilhelmsen (external advisor) and Dr. Sólveig Thorsteinsdóttir (internal advisor). Final thesis grade: 19	November 2004 to August 2005

SCHOLARSHIPS

PhD scholarship from Fundação para a Ciência e Tecnologia (FCT) on the subject " <i>Intracellular signaling downstream of integrins in early mouse myogenesis</i> " (SFRH/BD/42584/2007)	<i>April 2008 to January 2014</i>
Research scholarship from the European Network of Excellence "Cells into Organs"	<i>February 2007 to March 2008</i>
Professional internship grant from Instituto do Emprego e Formação Profissional (IEFP) at Instituto Gulbenkian de Ciência	<i>February 2006 to November 2006</i>

MANAGEMENT AND EVENT ORGANIZATION

FCUL Microscopy Facility Optical Microscopy general administration <i>equipment maintenance, user management and training, purchases and orders, website creation and maintenance</i>	<i>September 2014 to present</i>
BioSys PhD Program modules organization: Hands-on Workshop on High Through-Put Microscopy; Epithelial Systems	<i>May 2015 to present</i>
Group manager for fluorescence and confocal microscopy equipment <i>advising and tutorials, equipment maintenance and troubleshooting</i>	<i>Late 2012 to present</i>
Group IT support <i>computer hardware and general software support, creation and management of lab inventories (antibody, primer databases, lab reagents, etc)</i>	<i>2006 to present</i>
CBA Scientific Committee PhD Student's delegate	<i>2012, 2013</i>
Annual CBA PhD Student Meeting organizer	<i>2011 - 2013</i>
Weekly "Thor's Day" CBA social event organizer	<i>2011 -2013</i>

EDUCATION AND TRAINING

MSc (Bologna) in Evolutionary and Developmental Biology, at Faculdade de Ciências da Universidade de Lisboa / Instituto Gulbenkian de Ciência. Research project on " <i>The role of the PI3K/Akt signaling pathway in the development of the epaxial myotome in the mouse embryo</i> " under the supervision of Dr. Sólveig Thorsteinsdóttir. Final thesis grade: 18 (in 20)	<i>October 2006 to December 2007</i>
Portuguese "Licenciatura" in Biology, former "Scientific" branch, at Faculdade de Ciências da Universidade de Lisboa. "Licenciatura" final grade: 14 (in 20); Final internship grade: 19 (in 20)	<i>September 1999 to October 2005</i>
Contrary to standard practice until then (2005), the final internship grade was NOT accounted as 20% of final "Licenciatura" grade due to transition to	

Bologna Process' parameters

PUBLICATIONS

Simão, M., Moço, M., Marques, L., Santos, R., 2020. Characterization of the glycans involved in sea urchin *Paracentrotus lividus* reversible adhesion. *Marine Biology* 167, 125. ([link DOI](#))

Igreja, S., Clarke, L.A., Botelho, H.M., Marques, L., Amaral, M.D., 2016, Correction of a Cystic Fibrosis Splicing Mutation by Antisense Oligonucleotides. *Human Mutation* 37, issue 2, 209-215. ([link Pubmed](#))

Marques, L., Thorsteinsdóttir, S., 2013. Dynamics of Akt activation during mouse embryo development: Distinct subcellular patterns distinguish proliferating versus differentiating cells. *Differentiation* 86, 48–56. ([link Pubmed](#))

Sato, T., Rocancourt, D., Marques, L., Thorsteinsdóttir, S., Buckingham, M., 2010. A Pax3/Dmrt2/Myf5 regulatory cascade functions at the onset of myogenesis. *PLoS genetics* 6, e1000897. ([link Pubmed](#))

OTHER COURSES AND ACTIVITIES

Amira 2020 Course @ Advanced Imaging Unit (IGC)	September 2020
NEUBIAS Training School # 9 – Training School for Facility Staff	October 2018
NEUBIAS Training School # 2 – BioImage Analysis for Early Career Investigators	February 2017
BioSys Hands-on Workshop on Fluorescence and High-Throughput Microscopy (FCUL)	2015 to 2017
Imaris Open Day @ Advanced Imaging Unit (IGC)	April 2014
SPCAL Laboratory Animal Sciences Theoretical Course	September 2012
2 nd Myograd Summer School for Myology, Berlin, Germany	June 2011
IGC Joint PhD Program, “Inside the Cell” Week	November 2008
Cells Into Organs workshop "Designing the Bodyplan: Developmental Mechanisms", Leiden, The Netherlands	June 2007
IGC Animal Use Practical Course on Laboratory Rodent Handling and Procedures	March 2007
Introduction to Light Microscopy, Instituto de Medicina Molecular	January 2007
Course in Practical Radiation Protection, Level 5B, Netherlands Kanker Instituut - Radionuclideslaboratorium	January 2005

TEACHING EXPERIENCE

Guest teaching of Bioimaging and Image Analysis Fundamentals in several undergraduate life sciences subjects at FCUL <i>Genes and Molecules in Development, Stem Cell Biology and Technology, Biomolecular Methods, Complementary Cell Biology, Experimental Project II</i>	<i>January 2015 to present</i>
Supervision and Training in Confocal Microscopy of attendees of EMBO Practical Course in 3D Developmental Imaging (IGC-Oeiras)	<i>July 2018</i>
Supervision of practical classes to BioSys PhD program Image Analysis workshops at FCUL	<i>September 2014 to present</i>
Supervision of practical classes of “BioImaging” subject to life sciences 1st year MSc students at FCUL	<i>January 2014 to present</i>
Supervision of practical classes of “Biologia e Tecnologia de Células Estaminais” course to Biologia Evolutiva e do Desenvolvimento and Biologia Humana e Ambiente 1 st year MSc students.	<i>January 2008</i>
Supervision of practical classes to 3rd year Biology students at the Developmental Biology lab in FCUL	<i>April 2007 to 2010</i>
Supervision of school visits and guided tours within “Dias Abertos” and other visits to FCUL	<i>2003 to present</i>

COMMUNICATIONS

<i>Oral presentations</i>	7 th Annual Meeting on Cell Signaling - SINAL 2013, Universidade de Aveiro, Portugal, 6 – 7 December, 2013: “Dynamics of Akt activation during mouse embryo development” Marques L. & Thorsteinsdóttir S
<i>Posters in conferences</i>	Molecular Biology in Portugal and EMBL. Faculdade de Ciências da UL, Lisboa. 18 July, 2013, “Dynamics of Akt activation during mouse embryo development: distinct subcellular patterns distinguish proliferating versus differentiating cells” Marques L. & Thorsteinsdóttir S. EMBO Young Scientists' Forum. Instituto de Medicina Molecular, Lisboa. 15-16 July, 2013, “Dynamics of Akt activation during mouse embryo development: distinct subcellular patterns distinguish proliferating versus differentiating cells” Marques L. & Thorsteinsdóttir S. 5 th Annual Meeting on Cell Signaling - SINAL 2011, Faculdade de Medicina da Universidade de Coimbra, Portugal, 28 – 30 April, 2011: “Akt signaling in early mouse development” Marques L. & Thorsteinsdóttir S. Joint Meeting of the Portuguese and Spanish Developmental Biology Societies, Badajoz, Spain, 10 – 12 November, 2010: “Evidence for a dual role of PI3K / Akt signaling in early mouse development” Marques L. & Thorsteinsdóttir S. Cells Into Organs Symposium on Tissue Specification and Organogenesis, Fundação Gulbenkian, Lisboa, Portugal, 4 – 6 February, 2009: “Is the PI3K/Akt pathway involved in mouse skeletal myogenesis?” Marques L., Bajanca F., Rodrigues G. & Thorsteinsdóttir S. First EMBO Conference on The Molecular and Cellular Mechanisms Regulating Skeletal Muscle

Development and Regeneration, Sant Feliu de Guixols, Spain, 24 – 29 September, 2008: “Is the PI3K/Akt pathway involved in mouse skeletal myogenesis?” Marques L., Bajanca F., Rodrigues G. & Thorsteinsdóttir S.

Fifth Annual Meeting of the Cells into Organs Network of Excellence, Zeist, The Netherlands, 8 – 10 April, 2008: “Is the PI3K/Akt pathway involved in mouse skeletal myogenesis?” Marques L., Bajanca F., Rodrigues G. & Thorsteinsdóttir S.

Symposium on “Mechanism of early development: cell fate determination, morphogenesis and patterning, Lisboa, 31 August - 2 September 2007: “Is the PI3K/Akt pathway involved in mouse skeletal myogenesis?” Marques L., Bajanca F., Rodrigues G. & Thorsteinsdóttir S.

LANGUAGE SKILLS

<i>Mother tongue</i>	Portuguese		
<i>Other languages</i>	English	French	Spanish
<i>Reading skills</i>	Excellent	Good	Good
<i>Writing skills</i>	Excellent	Fair	Fair
<i>Verbal skills</i>	Excellent	Fair	Fair

OTHER RELEVANT INFORMATION

<i>Date of birth</i>	09 / 02 / 1980
<i>Nationality</i>	Portuguese
<i>Driver's licence</i>	Portuguese A1, B1, B
<i>Other professional experience and competences</i>	Bookstore clerk (client services, database and inventory) Call Centre Operator (aggressive sales campaigns, inbound assistance, debt management campaigns) 2 nd <i>dan</i> Karate black belt

