



Laboratory Name	Centro de Microscopia Eletrónica e Histopatologia (Cmicros)	Cmicros
Main Goals:	Transmission, Scanning electron microscopy, EDX and Histopathology support for research on cells, tissues and microorganisms. Ultrastructural Diagnosis	

Lab Head	António Pedro Alves de Matos, PhD
Group	Catarina Bernardes, PhD Pedro Henriques Sandra Ribeiro Gonçalo Borrecho
Senior Researchers	
PhD Students	

Research Projects (from 2013)	<p>PTDC/MAR-BIO/6044/2014 - 3Qs para a Qualidade - Desenvolvimento de sensores moleculares e tecnologias para avaliação da qualidade dos produtos da pesca (Caracterização ultraestrutural dos sensores) FCT-UNL</p> <p>PTDC/DTP-SAP/0859/2014 - Flebovirus em Portugal: vectores, patogénese e co-infecções. (Caracterização ultraestrutural de novos flebovírus isolados em Portugal) INSA</p> <p>PTDC/MAR-BIO/0113/2014 - De pigmentos e toxinas: uma abordagem integradora ao potencial biotecnológico de um poliqueta marinho (toxinas com possíveis efeitos antitumorais) FCT-UNL</p> <p>PTDC/CTM-BIO/3640/2014 - Esterilização de hidrogéis clinicamente activos: em busca de estratégias eficazes (caracterização de hidrogéis e de efeitos citotóxicos) Alterações morfológicas da mucosa intestinal no jejum prolongado e após realimentação através de gastrostomia endoscópica:</p>
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estudo microscópico e ultraestrutural. (Soc. Portuguesa de Gastroenterologia)

Publications (10 most relevant, last 5 years)

Carla Viegas, Lúcia Santos, Anjos Macedo, Antonio Matos, Ana Paula Silva, Pedro Leao Neves, An Staes, Kris Gevaert, Rute Morais, Cees Vermeer, Leon J Schurgers, Dina Costa Simes
Chronic Kidney Disease Circulating Calciprotein Particles and Extracellular Vesicles Promote Vascular Calcification: A Role for GRP (Gla-Rich Protein)
January 2018 Arteriosclerosis Thrombosis and Vascular Biology
38(3):ATVBAHA.117.310578
DOI: 10.1161/ATVBAHA.117.310578

Dömötör, O., Kiss, T., Enyedy, É. A., Dömötör, O., Kiss, T., de Almeida, R. F. M., ... Matos, A. (2017). Studies on the mechanism of action of antitumor bis(aminophenolate) ruthenium(III) complexes. *Journal of Inorganic Biochemistry*, 168, 27–37. <https://doi.org/10.1016/j.jinorgbio.2016.12.008>

Roma-Rodrigues, C., Pereira, F., Alves de Matos, A. P., Fernandes, M., Baptista, P. V., & Fernandes, A. R. (2017). Smuggling gold nanoparticles across cell types – A new role for exosomes in gene silencing. *Nanomedicine: Nanotechnology, Biology, and Medicine*, 13(4), 1389–1398. <https://doi.org/10.1016/j.nano.2017.01.013>

Matos, A., Mendes, F., Valente, A., Morais, T., Tomaz, A. I., Zinck, P., ... Marques, F. (2017). Ruthenium-Based Anticancer Compounds: Insights into Their Cellular Targeting and Mechanism of Action. *Ruthenium Complexes: Photochemical and Biomedical Applications*, 1, 201–219. <https://doi.org/10.1002/9783527695225.ch10>

Gonzalo Scalese, Isabel Correia, Julio Benítez, Santiago Rostán, Fernanda Marques, Filipa Mendes, António Pedro Matos, João Costa Pessoa, Dinorah Gambino. Evaluation of cellular uptake, cytotoxicity and cellular ultrastructural effects of heteroleptic oxidovanadium(IV) complexes of salicylaldimines and polypyridyl ligands. *Journal of Inorganic Biochemistry* 166 (2017) 162–172

Paulo CS, Lino MM, Matos AA, Ferreira LS. (2013) Differential internalization of amphotericin B - Conjugated nanoparticles in human cells and the expression of heat shock protein 70. *Biomaterials*. Volume: 34 Issue: 21:5281-5293 doi: 10.1016/j.biomaterials.2013.03.048

Dressaire, C., Moreira, R. N., Barahona, S., de Matos, A. P. A., & Arraiano, C. M. (2015). BolA is a transcriptional switch that turns off



motility and turns on biofilm development. MBio, 6(1), e02352-14. <https://doi.org/10.1128/mBio.02352-14>

Antonio Cid, Ana Picado, José Brito Correia, Rúben Chaves, Héber Silva, Jorge Caldeira, António P. Alves de Matos, Mário S. Diniz (2014) Oxidative stress and histological changes following exposure to diamond nanoparticles in the freshwater Asian clam *Corbicula fluminea* (Müller, 1774). Accepted for publication in Journal of Hazardous Materials.

António P Alves de Matos, M Filomena Caeiro, Filipa F Vale, Eduardo Crespo, Ilan Paperna (2013) Iridovirus-Like Viruses in Erythrocytes of Lacertids from Portugal. Microscopy and Microanalysis. 19(5)1183-1189. DOI:10.1017/S1431927613001773

Sangreman Proenca, Maria da Conceicao M.; Moura Nunes, J. F.; Alves de Matos, A. P. (2013) Automatic Virus Particle Selection-The Entropy Approach. Ieee Transactions on Image Processing 22(5): 1996-2003 Published: MAY 2013. DOI: 10.1109/TIP.2013.2244216



Equipment/Techniques	Transmission Electron Microscope JEOL 1200EX Scanning Electron Microscope JEOL JSM-5400 Ultramicrotome Leica Ultracut E Ultramicrotome Leica Supernova Knifemaker Leica Vacuum evaporator JEOL JEE-4X Brucker EDX
Announcements	Ultrastructural analysis of kidney disease is being performed in collaboration with the Anatomik Lab of Clara Saúde
Some Pictures	
Location	
Links	http://ciem.egasmoniz.edu.pt/pt-pt/research/research-labs.aspx