

CIÊNCIAS Research Day 2019  
A melhor Ciência faz-se em CIÊNCIAS  
30 October, Wednesday - C3 Building

**POSTERS**

**CENTRO DE ESTATÍSTICA E APLICAÇÕES DA UNIVERSIDADE DE LISBOA (CEAUL)**

*Asymptotic L-moment theory for POT analysis of significant wave heights*  
Jessica Silva Lomba & MI Fraga Alves

*Spatial analysis of bat abundancy with adjustment for detection probability using distance sampling methods for acoustic data*  
Sandra Rodrigues, P Zea Bermudez, KF Turkman, H Coelho & M Mascarenhas

*Analysis of serological data towards a better understanding of the aetiology of ME/CFS*  
Tiago Domingues, H Mouriño & N Sepúlveda

**CENTRO DE MATEMÁTICA, APLICAÇÕES FUNDAMENTAIS E INVESTIGAÇÃO OPERACIONAL (CMAFCIO)**

*Geometry and topology of polygon spaces*  
Carlos Sotillo Rodríguez

*Existence and qualitative properties of solutions to nonlinear Schrödinger equations on metric graphs*  
Francisco Agostinho

*Teoria qualitativa para a equação de Schrödinger não-linear em dimensão 1*  
Luis Ferreira

*Comparison of two stochastic epidemiological models in a Bayesian framework*  
Luis Mateus

*Métodos para o Problema do Caixeiro Viajante Periódico com restrições de sincronização*  
Mafalda Ponte

*Quantifier elimination, o-minimality and cell decompositions for the additive ordered abelian group of real numbers*  
Ricardo Shimura

## **CENTRO MULTIDISCIPLINAR PARA A ASTROFÍSICA (CENTRA CIÊNCIAS)**

*The GAIA archive visualization service*

André Moitinho et. al.

*Construction and characterization of a pump source for a microchip laser for space applications*

Bruno Couto & P Gordo

*Neuromorphic nano-optoelectronic circuits for signal processing*

João Lourenço & J Figueiredo

*Young brown dwarfs as testbeds for star and planet formation*

Koraljka Muzic

*Resonant tunneling diode microwave-photonics circuits for optical and wireless communications*

Saif Alomari & J Figueiredo

*HERA lidar instrument development*

Paulo Gordo

## **CENTRO DE FÍSICA TEÓRICA E COMPUTACIONAL (CFTC)**

*Non-steady flows in porous media*

André Matias

*Ordering of binary colloidal crystals by random potentials*

André Nunes

*Surviving on the edge of instability*

Artem Ryabov

*Dynamics of cell-mediated aggregation*

Cristóvão Dias

*Self-propelled motion of flexible particles in tortuous channels*

Danilo Silva

*Modeling of wound closure in epithelial tissue*

Genilson Carvalho

*Collective dynamics of flexible active particles on substrates: from cells to tissues*

Hygor Melo

*Actuation of magnetoelastic membranes in dynamic magnetic fields*

Mykola Tasinkevych

*Propagation of interfaces in active liquid crystals on a substrate*  
Rodrigo Coelho

## **INSTITUTO DE ASTROFÍSICA E CIÊNCIAS DO ESPAÇO (IA)**

*Gravitational waves and electrodynamics: new perspectives*  
Francisco Cabral & FSN. Lobo

*The first super massive black holes: comparing models with observations*  
Stergios Amantidis, J Afonso, H Messias, B Henriques, A Griffin, C Lacey, C del P Lagos, V Gonzalez-Perez, Y Dubois, M Volonteri, I Matute, C Pappalardo, Y Qin, R-R Chary & RP Norris

*Characterising Atmospheric Gravity Waves on the lower and upper cloud bank of Venus using Venus Express VMC and VIRTIS images*  
José Silva, P Machado, J Peralta, G Gilli, R Hueso, F Brasil, D Espadinha, R Gonçalves & M Silva

*Venus' cloud top wind measures: coordinated Akatsuki/UVI (cloud-tracking) and TNG/HARPS-N (doppler velocimetry) observations*  
Ruben Gonçalves, P Machado, T Widemann, J Peralta, S Watanabe, A Yamakazi, T Satoh, M Takagi, K Ogohara, YJ Lee, H Avet & JE Silva

*Structural analysis of massive galaxies using Hubble Space Telescope deep imaging at  $z < 0.5$*   
Sandra N Reis, F Buitrago, P Papaderos, I Matute, J Afonso, S Amantidis, I Breda, JM Gomes, A Humphrey, C Lobo, S Lorenzoni, C Pappalardo, A Paulino-Afonso & T Scott

*Solar Coherence Instrument: a conceptual optical system for solar studies*  
Tiago E. C. Magalhães & JM Rebordão

## **INSTITUTO DE BIOFÍSICA E ENGENHARIA BIOMÉDICA (IBEB)**

*Enhanced digital breast tomosynthesis diagnostic using 3d visualization*  
Ana Margarida Mota

*Experimental validation of an axillary microwave imaging prototype*  
Daniela Godinho

*Discriminating between authentic and fake emotional vocalisations - insights from electroencephalography*  
Maciej Kosilo

*A thermal study of tumor treating fields for glioblastoma therapy*  
Nichal Gentil

*Transcutaneous direct current stimulation of the cervical spinal cord: combining modelling and experimental studies*  
Sofia Fernandes

## **CENTRO DE QUÍMICA E BIOQUÍMICA (CQB)**

*The absence of mannosyldiinositolphosphorylceramide in yeast plasma membrane affects sphingolipid-enriched domains and the membrane compartment of PMA1P*

Andreia Bento-Oliveira, FC Santos, JT Marquês, PMR Paulo, A Herrmann, HS Marinho & RFM de Almeida

*From sucrose to activated carbon microspheres: supports for nanosized metal oxides photocatalysts*

Ana S Mestre, AC Freire & AP Carvalho

*Towards the discovery of new improved antitubercular compounds: rational design and synthesis of novel hydrazones and hydrazides with an isoniazid scaffold*

Catarina Frazão de Faria, T Moreira, P Lopes, S Santos, M Machuqueiro & F Martins

*N-Acetylgalactosamine mimetics towards protein-protein interaction in Alzheimer's disease*

João M Barros, D Evans, N Dreyfus, G Sharman & AP Rauter

*Study on synthetic polymers used as supports in contemporary art works: the Portuguese painter Daniel Melin paintings*

Maria Coromoto Leite, A Bailão & ME Araújo

*Theoretical investigation of carbohydrate mimetics as potential halogen-bonding ligands*

Rafael Nunes, NM Xavier & P Costa

*Nanoporous materials for storage and release therapeutic doses of nitric oxide*

Rosana V Pinto, AC Fernandes, F Antunes, ML Pinto & J Pires

## **CENTRO DE QUÍMICA ESTRUTURAL (CQE CIÊNCIAS)**

*Chemical and thermal study of the *Catostylus tagi* for the development of a new biopolymer*

A RP Gonçalves, MJV Lourenço, JC Bordado, R Galhano dos Santos & LS Gordo

*Metallodrugs for cancer therapy: challenges and expectations*

Andreia Valente, TS Morais, L Côrte-Real, AI Tomaz, MJ Brito & MH Garcia

*Improving the reliability of indirect and direct doping control*

António J. Nunes, P Paixão, J Proença, J Narciso, S Luz & RJN Bettencourt da Silva

*Fractionation of nut shells with ionic liquids*

Carla SGP Queirós, MJV Lourenço & A King

*New selective Copper(I) complexes for prostate cancer cells*

João F Machado, F Marques, MFM Piedade, MJ Villa de Brito, MH Garcia & TS Morais

*ILGERANTS - New ionic liquids based mixtures for absorption refrigeration*

Miguel VR Silva, AF Cristino, X Paredes, CSGP Queirós, ARP Gonçalves & FJV Santos & CA Nieto de Castro

*A uniphied pH scale for all solvents*

Maria Filomena Camões, B Anes, C Oliveira & RB da Silva

*Synthesis of half-sandwich ruthenacarboranes complexes incorporating N-donor ligands as eminent candidates for boron neutron capture therapy*

Ricardo G. Teixeira, XF Gubau, F Marques, MP Robalo, MH Garcia, C Viñas & A Valente

## **CENTRO DE ESTUDOS DO AMBIENTE E DO MAR (CESAM CIÊNCIAS)**

*Chewing lice of wild birds from Portugal: neglected group of ectoparasites*

André Tomás, R Palma, MT Rebelo & IP Fonseca

*Seasonal variation of essential oil composition in *Thymus caespititius*, carvacrol chemotype*

Carolina Ferro Rodrigues, M Basaloco-Fonseca, H Trindade, J Teles- Reis, AC Figueiredo, JG Barroso & LG Pedro

*Influence of abiotic factors on growth and nodulation of *Acacia longifolia**

Carolina Sampaio, S Vicente, M Ramos, C Máguas & H Trindade

*Microbial dynamics and human health risks at the beach - will climate change matter?*

Chelsea J Weiskerger, J Brandão & VJ Harwood

*Diptera fauna associated with cat corpse decomposition as a possible entomological forensic tool*

Isabel Pereira da Fonseca, S Diz, C Loução, M Santos & MT Rebelo

*Establishment of early symbiosis in *Acacia longifolia*: does fire play a role?*

Joana Jesus, J Maciel, R Tenreiro, C Máguas & H Trindade

*The role of physical condition in the carryover effects between breeding and migration*

Marie Claire Gatt, M Versteegh, IB Tieleman, JP Granadeiro & P Catry

*Social transmission of food preferences in wild Populations of *Mus spretus**

Rita S Andrade, SAM Varela & AM Cerveira

*Downscale phenology of invasive species: the hidden side from canopy to flower*

Sara Vicente, C Máguas, H Trindade & M Giovanetti

## **INSTITUTO DOM LUIZ (IDL)**

*Atmospheric rivers*

Alexandre Ramos

*Effects of PM2.5 pollution on building natural ventilation*

Guilherme Carrilho da Graça

*Simulating large fire events in Portugal using cellular automata*

Joana Freire

*Magnetotelluric studies in detecting and old suture zone and major crust scale shear zones (Iberia)*

Joana Ribeiro

*Mineral resource potential and speciation of Cu-Zn tailings for future mining and environmental remediation at Neves Corvo mine, Portugal*

Jorge Relvas

*Solar potential in the urban environment*

Miguel Centeno Brito

*Using NDVI to identify potential groundwater dependent vegetation in the Iberian Peninsula*

Patricia Páscoa

*Seismical microzonation based on geotechnical data: application to Lisbon town*

Paula Teves-Costa

*Earth system modelling and climate change*

Pedro Matos Soares

*Mantle structure below Iberia Magreb region*

Susana Custódio

## **INSTITUTO DE BIOSISTEMAS E CIÊNCIAS INTEGRATIVAS (BioISI)**

*The battlefield in grapevine apoplast: uncovering lipid signaling events*

Ana Rita Cavaco

*Cell proliferation upregulates ANO1 in mucus cell hyperplasia*

Filipa Simões

*Development of gene edited cell models to study cystic fibrosis*

Lúcia Santos

*S2B (Specific-Specific Betweenness): a novel cross-disease network analysis method applied to motor neuron degeneration*

Marina Luque

*Atomic force microscopy and related techniques laboratory*  
Miguel Vitorino

*Adaptive wastewater microbiome evolution towards hydrocarbon and lipid enhanced bioremediation*  
Pedro D. Teixeira

*Effect of different sources of Fucus vesiculosus and aqueous extraction methods on the antioxidant and anti-acetylcholinesterase activity*  
Rebeca André

## **CENTRO DE ECOLOGIA, EVOLUÇÃO E ALTERAÇÕES AMBIENTAIS (cE3c)**

*Modelling the natural regeneration of Mediterranean woodlands with very spatial resolution*  
Adriana Principe

*Increasing the knowledge about the threatened endemic bryophytes from Macaronesia: main threats, priority habitats and the role of Natura 2000*  
Anabela Martins

*Novel insights on colonization routes and evolutionary potential of Colletotrichum kahawae*  
Dora Batista

*Land-use intensification promotes exotic species in a tropical island bird assemblage*  
Filipa Soares

*Using an invasive legume to engineer healthy agricultural soil: from mechanisms to models of a potential Win-Win situation*  
Florian Ulm

*Ectomycorrhizal fungi as a natural-based tool to improve biomass production and sustainable forest management*  
Inês Ferreira

*PORBIOTA PROJECT - WP7 - National monitoring system for genetic, species and ecosystem diversity and environmental quality status*  
Inês T. Rosário, P Tiago, S Chozas, J Palmeirim, R Rebelo & M Santos-Reis

*Long-term persistence of conservation-reliant species: the case of the lesser kestrel Falco naumanni and the European roller Coracias garrulus in Southern Portugal*  
João Gameiro

*Interactive effects of N addition and climate change on soil processes in Mediterranean ecosystems*  
Lourdes Morillas

*Is grazing exclusion a tool to improve tree regeneration and plant functional diversity drylands?*  
Melanie Kobel

*Demographic history and molecular adaptation in western Iberian freshwater fish*

Sofia Mendes

*Population genetics as a tool to support conservation of the African savannah elephant (*Loxodonta africana*)*

Teresa Santos

## **CENTRO DE CIÊNCIAS E DO MAR (MARE)**

*Ecotoxicologia em sistemas marinhos*

Bernardo Duarte e Vanessa Fonseca

*Planning for a changing ocean: Implications of moving ecosystem services for marine spatial planning and ocean governance*

Catarina Frazão Santos et al.

*LESS discards and LESS fishing effort for BETTER efficiency on the small-scale fisheries*

Célia Teixeira

*Projeto ENVMETAGENOMICS, eDNA: das espécies raras à diversidade da comunidade usando sequenciação a larga escala*

Filipe Ribeiro (et al.

*Changes in provisioning ecosystem services caused by the introduction of the manila clam*

Frederico Carvalho et al.

*A sticky research / Bioadhesion and biomimimcry Research Group*

Romana Santos et al.

*Projeto EVOTOX– Evolution of harmful algae blooms under ocean acidification and the cascading effects on coastal food-web dynamics*

Rui Rosa et al.

*Projetos “FindRayShark” e “Shark Attract”: “Raias e tubarões. Da escuridão para a luz da ciência”*

Sofia Henriques, S França et al.

*Biocronologia, entender o passado para perceber o futuro*

Susanne Tanner

*Projeto Portwims - Portugal twinning for excellence and innovation in marine science and earth observation (Horizon 2020)*

Vanda Brotas et al.



## **LABORATÓRIO DE SISTEMAS INFORMÁTICOS DE GRANDE ESCALA (LASIGE)**

*A programming language with context-free session types*

Bernardo Almeida & VT Vasconcelos

*From raw to meaningful: designing a data-driven interface for Parkinson's*

Diogo Branco, C Mendes, R Pereira & T Guerreiro

*Support of strong consistency on fog applications*

Diogo Lima & H Miranda

*Dependability-oriented data quality in real-time aquatic monitoring systems*

Gonçalo Jesus, A Casimiro & A Oliveira

*Recommender system for large-scale scientific datasets based on overrepresentation analysis and external sources of knowledge*

Márcia Barros, A Moitinho & F Couto

*Cyberthreat detection from twitter using deep neural networks*

Nuno Dionísio, P Ferreira & A Bessani

*Evolving meaning: using genetic programming to learn similarity perspectives for mining biomedical data*

Rita Sousa, S Silva & C Pesquita

*Reminiscence therapy improvement using emotional information*

Soraia M. Alarcão, C Maruta & MJ Fonseca

*Estimating valence and arousal in images from visual and semantic features*

Soraia M. Alarcão, C Maruta & MJ da Fonseca

*Predicting assisted ventilation in Amyotrophic Lateral Sclerosis using a mixture of experts and conformal predictors*

Telma Pereira, S Pires, M Gromicho, S Pinto, M de Carvalho, SC Madeira

*HeadREST - An expressive language for specifying REST APIs*

Vasco T. Vasconcelos, F Martins, A Lopes, F Ferreira, T Santos & N Burnay

*On the challenge of deduplicating human genomic sequencing data*

Vinicius Cogo & A Bessani

**CENTRO INTERUNIVERSITÁRIO DE HISTÓRIA DAS CIÊNCIAS E DA TECNOLOGIA (CIUHCT)**

*Repensando o nacionalismo. A propaganda anti-cancro do Instituto Português de Oncologia nas décadas de 30 e 40 do século XX*

Beatriz Medori

*Inquisition in Action: The Material Practices of Censorship in Early Modern Portugal*

Francisco M. Romeira