

CIÊNCIAS RESEARCH &
INNOVATION DAY 2024

Time For Science, Science Of Time

22nd October

Join us to inspire future innovation within
our vibrant community!



A. CHEMICAL SCIENCES AND TECHNOLOGIES

CQE | CENTRO DE QUÍMICA ESTRUTURAL



A.1 Medicinal and Biological Chemistry for Health

A.2 Environment and Energy

A.3 Innovation at CQE

A.4 M.Sc. Students at CQE

A.5 Ph.D. Students at CQE

B. LIFE SCIENCES

CE3C | CENTRE FOR ECOLOGY, EVOLUTION AND ENVIRONMENTAL CHANGES



B.1 *A sex-specific trade-off between resistance and thermal tolerance in **Tetranychus urticae***

Sofia G. Costa, Flore Zélé, Inês Santos, Sara Magalhães, Leonor R. Rodrigues

- B.2** *Integrating experimental evolution and genomic analysis to understand rapid evolutionary radiations*
Ivo M. Chelo, Diana Morais, Inês Vieira, Varvara Fazalova, Bruno Nevado
- B.3** *People, Rice and Mangroves in coastal Guinea-Bissau: Modelling sea level rise and its potential effects*
Madalena Matias, Paula Redweik, Luís Catarino, Ana I.R. Cabral, Cristina Catita, Joana Sousa, Carlos Antunes
- B.4** *Conservation, monitoring and restoration assessment of the world-class cave biodiversity hotspot in Portugal*
Ana Sofia Reboleira, Gonçalo Calado, Cristina Veiga-Pires, Eric Font, R. Pérez-López, Kasun Bodawatta
- B.5** *Metagenomic profiling of wastewater during the first waves of COVID-19 highlights specific microbiota and resistome signatures*
Beatriz Ramos, Nuno Brôco, Marta Carvalho, Rita Lourinho, João Vilaça, Sílvia Monteiro, Ricardo Santos, Mónica V. Cunha
- B.6** *Laminin- α 2 chain deficiency in skeletal muscle causes dysregulation of multiple cellular mechanisms*
Susana G. Martins, Vanessa Ribeiro, Mafalda Pita, Catarina Melo, Cláudia Paulino-Cavaco, Dario Antonini, Sharadha Dayalan Naidu, Inês Fonseca, Bérénice Saget, Rita Zilhão, Albena T Dinkova-Kostova, Sólveig Thorsteinsdóttir, Ana Rita Carlos
- B.7** *Cross-scale impacts of groundwater depletion on a coastal dune ecosystem*
Cristina Antunes, Sérgio Chozas, Diaz Barradas, Mari Cruz, Cristina Máguas, Joaquín Hortal
- B.8** *We invest in people: your PhD and advanced training at CE3C*
- B.9** *We invest in people: sharing knowledge with society and decision-makers*

B.11 *Bioaccumulation of rodenticide residues in two populations of susceptible rats as determined by Vkorc1 genotyping*

Ana Carromeu-Santos, Rita Pacheco, Maria da Luz Mathias, Sofia I. Gabriel

B.12 *Know thy food: Cyrba algerina's (Araneae, Salticidae) response to prey cues requires previous experience.*

Ana M. Cerveira, Robert R. Jackson

B.13 *Targeting Acinetobacter baumannii with Phage Lysins: A Novel Antimicrobial Strategy*

Ana Carolina Pimentel, Maria Leonor Raposo, Vera Manageiro, Aida Duarte, Manuela Caniça, Jorge M. B. Vítor, Filipa F. Vale

B.14 *Bioactive Nanohybrids as Advanced Coating Additives: a potential synergistic strategy for biofouling and MIC prevention*

Elisabete R. Silva, Noelia Losada-Garcia, Nanni Noël-Hermes, Maria Salta

B.15 *Inhibition of GRK5 with CCG-273441 as a potential novel strategy to restore p.Phe508del-CFTR traffic*

Mariana F. Caleiro, Violeta Railean, Margarida D. Amaral, Hugo M. Botelho

B.16 *Tackling the Threats of New Psychoactive Substances*

Helena Gaspar, Rita P. Lopes, Daniela R. Ferreira, Mariana Menezes, Matilde D'Albuquerque, Mariana Correia, Inês Bento, Carlota P. Ferreira, Cristiana Ferreira

B.17 *Molecules and Forces at AFMaRT*

Ana Carapeto, Joana Nobre, João Belo, Tiago Robalo, Mário S. Rodrigues

B.18 *Plant Stress & Signalling Lab - Study of polarity mechanisms and how extracellular signals (abiotic and biotic stresses) are perceived and intracellularly transduced*

Rui Malhó

- B.19** *Caracterização hidrológica da água central ao largo da península ibérica*
Diogo Lopes, Fátima Sousa, Joaquim Dias
- B.20** *Coastal conservation and biodiversity lab*
Marisa I. Batista, Miguel P. Pais, Sofia Henriques, Susana França, Susanne E. Tanner
- B.21** *Coastnet - coastal monitoring network*
- B.22** *From sea to farm: bioengineering crop rhizospheres with marine plant growth promoting bacteria to enhance plant tolerance to abiotic stress*
Bernardo Duarte, João Carreiras, Ana Cruz-Silva, Bruno Fonseca, Ricardo Cruz de Carvalho, Enrique Mateos-Naranjo, Ignacio Rodríguez-Llorente, Eloisa Pajuelo, Susana Redondo-Gómez, Isabel Caçador, Ana Rita Matos, Jennifer Mesa Marin, Andreia Figueiredo
- B.23** *From the pliocene to present: diversification, gene flow and selection in european sardine's mitogenomes*
Ana Rita Vieira, Filipe de Sousa, João Bilro, Mariana Bray Viegas, Maria Inês Silva, Leonel S. Gordo, Octávio S. Paulo
- B.24** *Harnessing the power of gut metagenomics to trace seafood provenance: the atlantic chub mackerel as case study*
Eduardo Feijão, Irina A. Duarte, Marcelo Pereira, Pedro Pascoal, Rita. P. Vasconcelos, Carla Gameiro, Susanne E. Tanner, Ana Rita Matos, Ricardo Dias, Andreia Figueiredo, Vanessa F. Fonseca, Bernardo Duarte
- B.25** *Meet MARE's phytoplankton monitoring and remote sensing group!*
Giulia Sent, Afonso Ferreira, Luciane Favareto, Andreia Tracana, Beatriz Biguino, Joana Cruz, Ana C. Brito, Vanda Brotas
- B.26** *Response of coccolithophore communities to saharan dust deposition in the tropical North Atlantic*
Catarina Guerreiro, Afonso Ferreira, Andreia Tracana, Vera Veloso, Mário Cachão, Telmo Nunes, Vanda Brotas, *et al*
- B.27** *Tracking 3D size and shape changes in stony corals*
Garrett Fundakowski, Mariana Alvarez-Noriega, Viviana Brambilla, Pim Edelaar, Amelia Errington, Luisa Fontoura, Kevin Laland, Joshua S. Madin, Rachael M. Woods, Kyle J. A. Zawada, Maria Dornelas
- B.28** *A new method to measure reef growth through time in 3D*
Cher Chow, Maria Dornelas

- B.29** *Sea urchin-inspired biological adhesives – from protein production to Characterization*
Mariana R. Santos, Inês Ventura, Cláudio M. Gomes, Romana Santos, Bárbara J. Henriques
- B.30** *Sharks in Macaronesia and Cabo Verde: regional differences in species richness and anthropogenic pressures*
Jaqueline Varela, Catarina P. Santos, Rui Rosa
- B.31** *Should I stay or should I go: Judgement bias in octopus*
M. Marques, C.C. Santos, R. Rosa.
- B.32** *Project PLANT: Planning for sustainable ocean use in Antarctica under global change*
C. Frazão Santos, T. Agardy T, L. Wedding, L. Crowder, J. Xavier, S. Grant, K.A Hughes, M. Scherer, E. Gissi, C. Pereira Santos, D. Santos, F. Borges
- B.33** *(Mis)Perceptions of ocean planning in changing polar regions*
C. Pereira Santos, D. Santos, R. Badhe, CN. Ehler, S.M. Grant, K.A Hughes, A. Van de Putte, J.C Xavier, R. Rosa, C. Frazão Santos

C. EARTH SCIENCES

IDL | INSTITUTE DOM LUIZ



INSTITUTO
DOM LUIZ

- C.1** *GEMMA - improving GEodynamic Models in MAcaronesia by reconciling geodetic, geophysical and geological data*
Jaime Almeida, Rui Fernandes, João Duarte, Ricardo Ramalho, Graça Silveira, Pedro Silva, Rui Quartau, Joaquim Luís - GEMMA team
- C.2** *Variscan olistostromes and the geological history they tell... unraveling the tectonic evolution of the Pangea supercontinent*
Ícaro Dias da Silva, Manuel Francisco Pereira, Emilio González-Clavijo, José Brandão Silva, Lourenço Steel-Hart
- C.3** *Listening to the Ocean and Solid Earth with OBS and DAS*
Afonso Loureiro, Carlos Corela, Luís Matias, David Schlaphorst
- C.4** *Exploring the Potential of Solar Powered Vehicles*
Mário C. Brito, Ivo Costa, Dmitri Botolov, Rodigo Amaro, et al

- C.5** *Generation of 3D urban scenarios for post-earthquake simulations*
Francisco Silva e Paula Redweik
- C.6** *Geophysical and geotechnical offshore studies: Pioneering contribution to shape Portugal's wind farm strategy*
Pedro Brito, Luís Batista, Rúben Borges, Pedro Costa, Marta Neres, João Noiva, Ângela Pereira, Carlos Ribeiro, Marcos Rosa, Pedro Terrinha
- C.7** *Hydrothermal Fields on the Portuguese Seafloor (Mid-Atlantic Ridge)*
Bernardo Ferreira, Ágata A. Dias, Filipa Marques
- C.8** *Decoding the Ocean: Regional Patterns, Extremes, Ecosystem Impacts*
Ana Machado, Sandra Plecha, Gil Lemos, Pedro Nunes, Susana Silva, Álvaro Peliz
- C.9** *Atmospheric Research for the 21st Century: extreme events in a changing climate*
Rita M. Cardoso, Pedro M.M. Soares, Ricardo Trigo, Ana Russo, Carlos Camara, Luana Santos, Miguel Lima, Sílvia Nunes
- C.10** *Health effects of PM2.5 emissions from woodstoves and fireplaces in living space*
Nuno R. Martins e Guilherme Carrilho da Graça

D. PHYSICAL SCIENCES AND ENGINEERING

**CFTC | CENTER FOR THEORETICAL AND
COMPUTATIONAL PHYSICS**



- D.1** *Coarse-Grained Simulations of the Flocking of Active Skyrmions*
A. W. Teixeira, M. F. Rodrigues, M. Tasinkevych, C. S. Dias
- D.2** *Magnetic Carbon Nanotubes*
Matilde Túbal, M. Margarida Cruz, Leonard Francis
- D.3** *Two-component scalar Dark Matter*
Maria Gonçalves, Margarete Mühlleitner, Rui Santos, Tomás Trindade

- D.4** *CosmoGen: A genetic algorithm framework for exploration of dark energy dynamics*
Diogo Castelão
- D.5** *Stellar Nurseries: Young stars, brown dwarfs and rogue planets*
Kora Muzic, Afonso do Vale, Daniel Capela, Tamara Rom
- D.6** *The Astronomical Potential of the RAEGE-Az Radio Telescope*
Pedro Martins, *et al*
- D.7** *Detecting and Characterising atmospheric gravity waves on Mars' atmosphere - Final results using data from OMEGA/Mars Express*
Francisco Brasil, *et al*
- D.8** *Calibration and test of the ATHENA On-board Metrology system*
Nuno Gonçalves, *et al*



- D.9** *Breast and Axillary Microwave Imaging to Aid Breast Cancer Diagnosis - Enhancing our Excellency via Horizon Europe*
Daniela M. Godinho, Henrique V. Lopes, Raquel C. Conceição
- D.10** *DC4MND: Multidimensional Mechanistic Investigations of Trans-Spinal Direct Current Stimulation in Motor Neuron Disease*
Leonor de Oliveira Pires, Sofia Rita Fernandes



- D.11** *Experimental Particle Physics*
José Maneira, Valentina Lozza, Agostinho Gomes, Helena Santos

D.12 *RADART- RAdiation Dosimetry to Advance RadioTherapy*

Jorge Sampaio, Daniel Galaviz, José Pires Marques, João Gentil, Luís Peralta, Pamela Teubig, Carina Coelho, Cristiana Rodrigues, Duarte Guerreiro, Joana Antunes - Team CIÊNCIAS

D.13 *Nuclear Reactions, Instrumentation and Astrophysics at FCUL*

Daniel Galaviz, Jorge Sampaio, José Pires Marques, Luís Peralta, Pamela Teubig, Carina Coelho, Francisco Barba, Manuel Xarepe, Ricardo Silva - Team CIÊNCIAS

D.14 *Unveiling the Building Blocks of the Universe: Theoretical Particle Physics*

João Pires

E. MATHEMATICAL SCIENCES

CEAUL | CENTRE OF STATISTICS AND ITS APPLICATIONS



E.1 *Estimating Caribou Abundance Using Density Surface Models*

Iúri J. F. Correia, Christine Cuyler, Tiago A. Marques, Soraia Pereira, Marta M. Rufino

E.2 *Child Growth Curve in Sofala - Mozambique and its Comparison with Other Contexts*

Neto Pascoal, Fernando Sequeira, Carlos Geraldés

CEMS.UL | CENTER FOR MATHEMATICAL STUDIES



E.3 *Unified Framework for Proof Translations*

Maria Osório Costa, Gilda Ferreira

E.4 *Jittered Sampling and the Strong Partition Principle*

Florian Pausinger

E.5 *A spectral partition problem with volume constraint*

Makson Santos

E.6 *The conformal limit of CP^1 -structures*

Pedro M. Silva

E.7 *Formulations and branch-and-cut algorithms for the Period Travelling Salesman Problem*

Sofia Henriques, Ana Paias

F. COMPUTER SCIENCE AND ENGINEERING

**LASIGE | COMPUTER SCIENCE AND
ENGINEERING RESEARCH CENTRE**



F.1 *Full-Polymorphism in Context-Free Session Types*

Miguel Roldão, Diogo Poças, Vasco T. Vasconcelos

F.2 *The Trick is to Stay Behind?: Defining and Exploring the Design Space of Player Balancing Mechanics*

David Gonçalves, Daniel Barros, Pedro Pais, João Guerreiro, Tiago Guerreiro, André Rodrigues

F.3 *Development of a knowledge graph for a recommender system for biological control agents against plant pathogens*

Francisco Vicente, Ricardo Ramiro, Márcia Barros

F.4 *Effective but Unfeasible: Addressing NIDS Challenges in the Real World*

Allan Espindola, Eduardo Viegas, António Casimiro, Pedro M. Ferreira, Altair Santin

F.5 *ClusTric: Unraveling Disease Progression Patterns for Patients Stratification in Amyotrophic Lateral Sclerosis*

Daniela Amaral, Diogo F. Amaral, Marta Gromicho, Mamede de Carvalho, Sara C. Madeira, Pedro Tomás, Helena Aidos

F.6 *Path Authorization at Terabit Speed for the SCION Internet Architecture*

Martim Francisco, Bernardo Ferreira, Salvatore Signorello

**CIUHCT - INTERUNIVERSITY CENTER FOR
THE HISTORY OF SCIENCE AND
TECHNOLOGY**



CIUHCT

Centro Interuniversitário de História
das Ciências e da Tecnologia
FCUL | FCT - UNL

- G.1** ***E3Global***
Ana Simões
- G.2** ***RUTTER***
Henrique Leitão
- G.3** ***MoPRA***
Maria Elvira Callapez
- G.4** ***Exposição "O Poder da Palavra V — A Oferta ao Imperador: Círculos de Conhecimento"***
Juan Acevedo, Inês Bérnard da Costa
- G.5** ***Bases de Dados @ CIUHCT: Dicionário Biográfico de Cientistas, Engenheiros e Médicos em Portugal, Bibliografia de História das Ciências, Tecnologia e Medicina em Portugal, 2000-2015, Tratadística hidráulica (Projecto AQUA)***