



Annual Report 2022

utad UNIVERSIDADE
DE TRÁS-OS-MONTES
E ALTO DOURO



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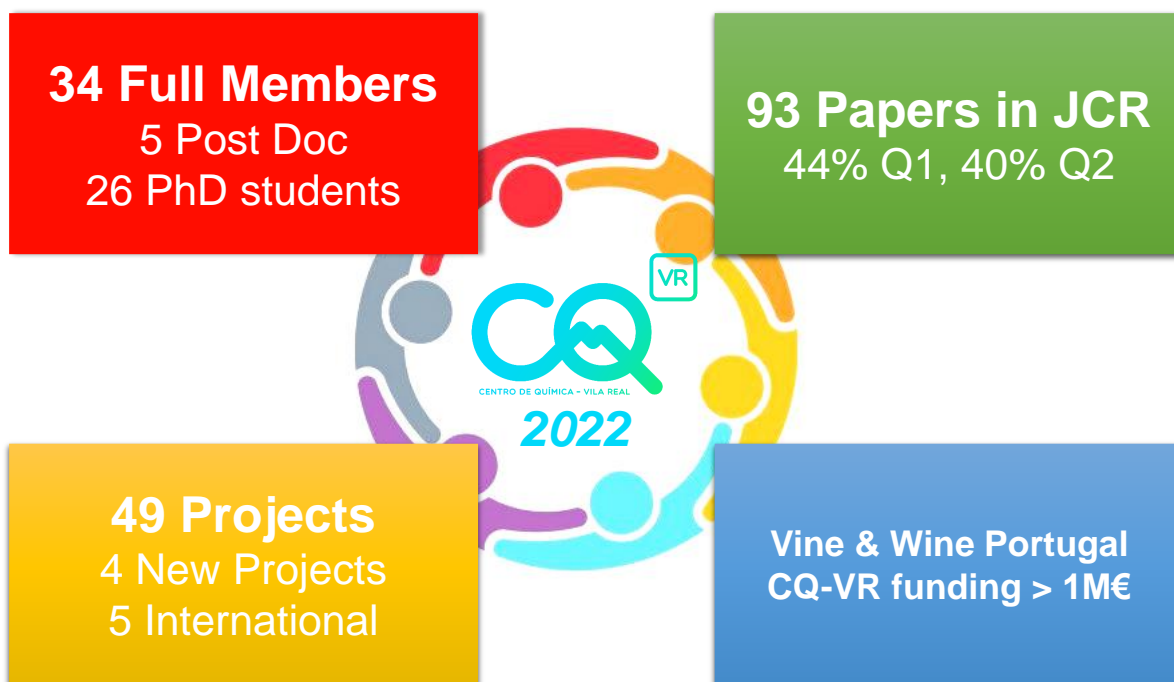
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1. Overview



Visit CQ-VR at:



<https://cqvr.purpleprofile.pt/>



Meta

<https://www.facebook.com/Centro-de-Qu%C3%ADmica-Vila-Real322276015378416>

1.1. This past year

In this year the CQ-VR was composed of 34 integrated researchers, 24 PhD students, 5 Post-Doc students (Figure 1).

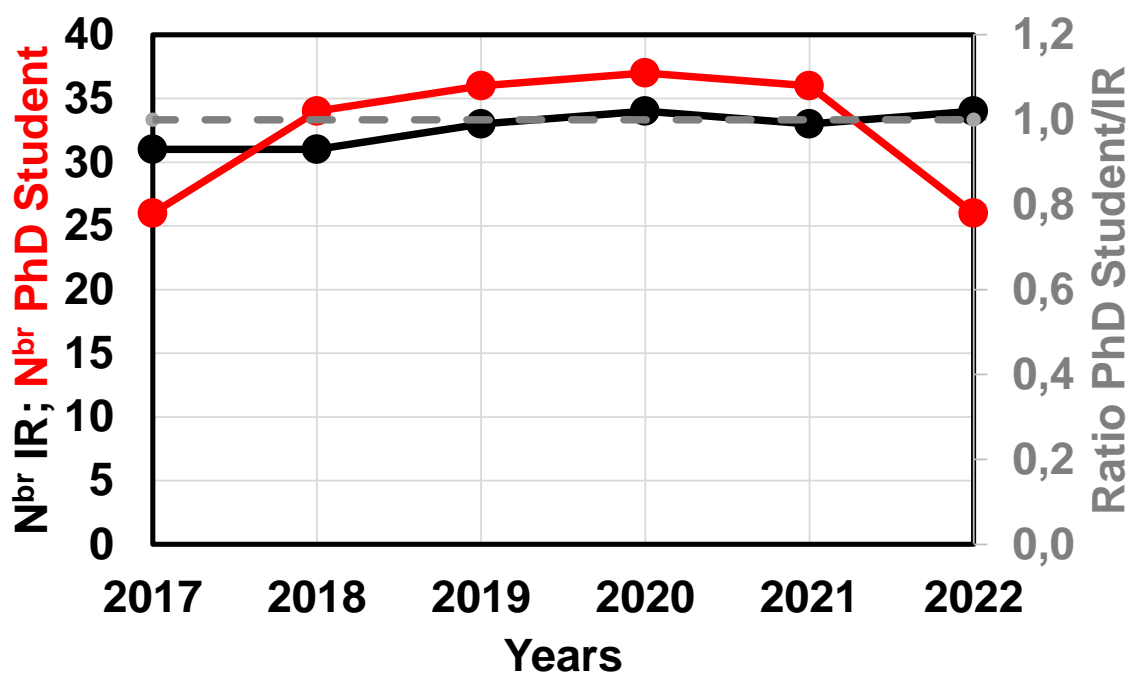


Figure 1 – Evolution in the number of integrated researchers, PhD students and Collaborators in the last six years.

This year was also very productive concerning the number of published papers. The total number of published papers in journals indexed in the Journal Citation Reports (JCR) was 93 (Figure 2). According to the Web of Science database, 41 research papers were published in Q1 journals, 37 in Q2 journals and 6 papers were published in Q3 and Q4 journals. Nines papers were published in newly released journals which are therefore waiting for impact factor. In 2022 the productivity of the CQ-VR members was near 3 per integrated member, although further increase in published papers in the top 5% journals is needed.

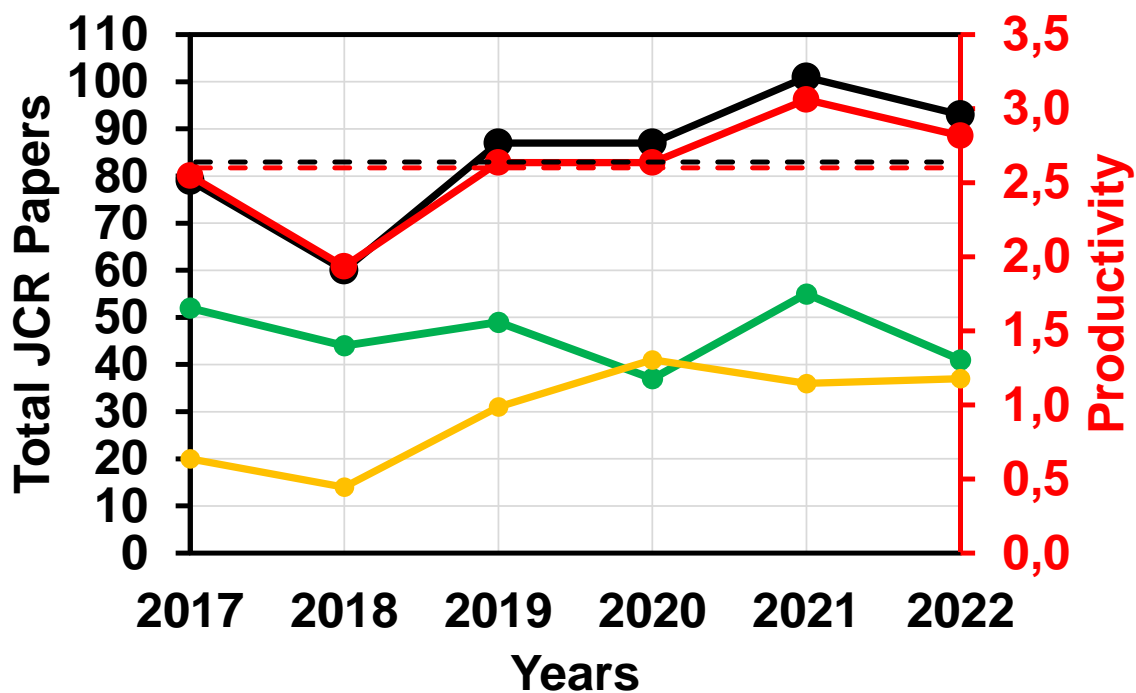


Figure 2 – Evolution in the number of published papers in international refereed journals indexed to the Web of Science database (Red – productivity, Black – Total number of papers; Green – Q1 papers, Orange – Q2 papers).

Table 1 – Top 7 journals used by the CQ-VR researchers for publishing their work in the 2022 period. Also shown the scientific areas and ranks of the journals according to the Web of Science Journal Citation Reports (JCR).

Rank	Journal	N ^{br}	IF	
1 st	Science of the Total Environment	5	10.754	26/279 Environmental Sciences (Top 10%)
1 st	Foods	5	5.561	35/144 Food Science & Technology (Q1)
3 rd	Water	4	3.350	36/100 Water Resources (Q2)
4 th	Molecules	3	4.927	65/179 Chemistry Multidisciplinary (Q2)
4 th	Plants	3	4.658	39/239 Plant Sciences (Q1)
4 th	Sustainability	3	3.889	133/279 Environmental Sciences (Q2)
4 th	Chemosensors	3	4.229	16/64 Instrument and Instrumentation (Q1)

The number of starting, ongoing and concluded projects in 2022 was 46. One big project started in 2022 Vine & Wine Portugal – Driving Sustainable Growth Through Smart Innovation under the Recuperation and Resilience Plan (PRR) with a huge participation of the CQ-VR members of the Food Chemistry and Biochemistry group and Environmental Chemistry group, with a direct financial support to the CQ-VR of more than 1 million euros. The Vine and Wine Mobilizing Agenda, promoted by Gran Cruz Porto, has representation from North to South of the country and aims to create sustainable growth in the wine sector through technological innovation and an integrated vision. It is estimated that this Mobilizing Agenda will have a significant impact on the sector with an increase in business volume in existing products, revenue of €52M in new products and services, a 21% increase in exports, the creation of 384 new jobs and 226 highly qualified ones, an increase from 2 to 30% in the incorporation of renewable energy, a reduction from 9 to 5 liters in water consumption, and a reduction from 321 to 191 in gCO₂/bottle emissions.

In this year, in line with the External Evaluation Committee recommendations an effort was made in order to increase the visibility of the CQVR research groups. In this context, Webinars and LabTours were regularly organized with a great number of attendants. We feel that these seminars and visits to the CQ-VR laboratories are being well accepted by the general audience. Additionally, Facebook pages were created for each group for divulgation of the activities of each group. A portfolio of formation initiatives for the high school students and professors were created and made available.

1. Junior Chemistry Olympics (7 May)
2. Chemistry Olympics + (30 April)
3. CQ-VR Day (8 July)

1.2. Who we are

Management Structure

Director Fernando Hermínio Ferreira Milheiro Nunes



Fernando Nunes
Food Chemistry

Maria Cristina Fialho Oliveira



Cristina Oliveira
Electrochemistry

Vice-Directors

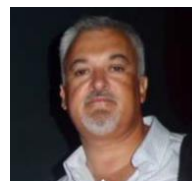
João Filipe Coutinho Mendes



João Coutinho
Soils Analysis

Principal Investigators

Applied Organic Chemistry Paulo Fernando da Conceição Santos



Paulo Santos
Dyes synthesis

Materials Chemistry Verónica Cortés de Zea Bermudez



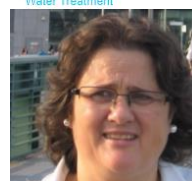
Verónica Bermudez
Hybrid Materials

Environmental Chemistry José Alcides Silvestre Peres



José A. Peres
Water Treatment

Food Chemistry and Biochemistry Maria Fernanda Gil Cosme Martins



Fernanda Cosme
Food Technology / Oenology

PhD members

Alexandra Isabel Martins Paulo da Costa	Luís Filipe da Mota Ribeiro
Alice Maria Correia Vilela	Maria Cristina Fialho Oliveira
Amadeu Duarte da Silva Borges	Maria Manuel Silva Oliveira
Ana Cristina Briga de Sá	Maria do Céu Mendes de Sousa
António Francisco Henrique Inês	Maria Cristina Álvares Pereira Gonçalves
António Manuel Santos Tomás Jordão	Maria Fernanda Gil Cosme Martins
António José Duque Pirra	Mariana Sofia Peixoto Fernandes
Carlos Luís Leite Amor	Marco Paulo Gomes de Sousa Lucas
Fernando Hermínio Ferreira Milheiro Nunes	Nuno Miguel Cordeiro Cristelo
Fernando António Leal Pacheco	Patrícia Alexandra Miranda David Barata
Francisco Manuel Pereira Peixoto	Paulo Fernando da Conceição Santos
João Claro Almeida Ribeiro Claro	Paulo Jorge dos Santos Coelho
João Filipe Coutinho Mendes	Pedro Manuel de Melo Bandeira Tavares
João Filipe Figueiredo da Rocha	Rosa Magalhães Rego
José Alcides Silvestre Peres	Virgílio Alexandre Cardoso e Falco da Costa
José Miguel Ribeiro	Verónica Cortés de Zea Bermudez
José Ramiro Afonso Fernandes	
José Virgílio de Sousa Coelho Prata	
Lucinda Vaz dos Reis	

Postdoctoral students

Teresa Cristina Tarlé Pissarra. Supervisor: Fernando António Leal Pacheco.
Vânia Graça. Supervisor: P. Coelho
Daniela Maria da Silva Correia. FCT Grant Holder. Supervisor: V. de Zea Bermudez
Sílvia Petronilho FCT Grant Holder. Supervisor: Fernando M. Nunes
José Carlos Leitão Portugal Nunes. Supervisor: Fernando M. Nunes

Technical and administrative staff

José Eduardo Borges
Carlos da Costa Matos
Maria Natália Campos Teixeira

Collaborators

Bruno Rocha, Engineering Department, UTAD

Diogo Faria, Engineering Department, UTAD

Fernando Glenadel Braga, Chemistry Dep., UTAD

Lisete Sofia Gomes Fernandes, Microscopy Unit, UTAD

Maria Cristina Guiomar Antunes, Chemistry Dep., UTAD

Maria João Santos, Environmental and Biology Dep., UTAD

Paula Lopes

Romeu Antonio Videira, Pharmacy College, UP

Rui Campos, INL, Braga

1.3. Research Units – What we do

Applied Organic Chemistry

- Design and synthesis of new functional organic molecules.
- Cyanine dyes photosensitizers for photodynamic therapy of cancer, fluorescent NIR probes for biomolecules and dye-sensitized solar cells.
- Calixarene-based architectures and carbon nanomaterials for sensory applications, (photo)catalysis, optoelectronic devices, bioimaging and nanomedicine.
- Heterocyclic photochromic compounds for application in ophthalmic lens coatings.

Materials Chemistry

- Development of new functional materials.
- Oxide materials for electronics, biosensing and catalysis.
- Hydrophilic carbon nanomaterials for sensors, fuel cells and medical therapies.
- Nanocatalysts and membrane electrode assemblies for (micro)fuel cells.
- Modified carbon-based electrodes for health applications.
- Organic/inorganic (bio)hybrid materials for smart windows, solar concentrators, batteries, fuel cells, optics, biomedicine, and (super)hydrophobic paintings/coatings.
- Alkali-activated composites for the construction industry

Environmental Chemistry

- Application of advanced oxidation processes for water and wastewater treatment: removal of contaminants of emerging concern and microorganism inactivation.
- Development of new eco-efficient solutions for the management of agro-industrial by-products and the environmental modeling of multiple-use watersheds focused on the interplay between anthropogenic pressures and stream water contamination, as well as of catchments affected by natural or man-induced disasters, are also major goals.
- Study of the microbial and biochemistry activity of the soil related to global warming, nutrient cycling and energy effort for nutrient acquisition.

Food Chemistry & Biochemistry

- New food formulations, innovative technologies and processes to improve the production, safety and quality of wine and foods.
- Improvement and development of new analytical methods for wine and food safety and quality control.
- Chemical and toxicological characterization of food bioactive compounds.
- Biochemical, chemical and sensory modifications during production, processing and conservation to contribute to a healthier diet.
- Development of functional foods with innovative properties devoid of allergenicity.
- Evaluation of the bioactive compounds impact on diseases and aging.

Part I - Environmental Chemistry

I.1. Advanced Education

I.1.1. Junior Researchers

Name Bruno Miguel Freitas da Silva
Supervisor Fernando António Leal Pacheco and Luís Filipe Sanches Fernandes

Name Victor Hugo Sarrazin Lima
Supervisor Fernando António Leal Pacheco and Luís Filipe Sanches Fernandes

I.1.2. Postdoctoral students

Name Daniela Patrícia Salgado Terêncio
Supervisor Fernando António Leal Pacheco and Luís Filipe Sanches Fernandes

Name Renata Cristina Araújo Costa
Supervisor Fernando António Leal Pacheco and Luís Filipe Sanches Fernandes

I.1.3. PhD students

Name Ana Rita Moura Teixeira
Supervisors José Alcides Peres, Marco Lucas
PhD programme Doutoramento em Ciências Químicas e Biológicas
Starting date January 2021

Name	Gislaine Costa de Mendonça
Supervisors	Teresa Cristina Tarlé Pissarra (UNESP, Brasil) e Fernando António Leal Pacheco
PhD	Agronomia (Ciência do Solo), Universidade Estadual Paulista (UNES), campus de Jaboticabal, São Paulo, Brasil
Starting date	18 maio de 2020 (36 meses)
Name	Leonilde Marchão
Supervisors	Marco Lucas; Pedro Tavares
PhD	Agrichains
Starting date	Setembro 2019
Name	Nuno Filipe Alves Jorge
Supervisors	José Alcides Peres, Marco Lucas
PhD programme	Programa de doutoramento Água, Sustentabilidade e Desenvolvimento, Universidade de Vigo
Starting date	January 2018
Name	Regina Maria Bessa Santos
Supervisors	Fernando A.L. Pacheco e Luís F.S. Fernandes
PhD	Ciências Químicas e Biológicas (UTAD)
Starting date	1 maio de 2019 (36 meses)
Name	Rui Bajouco Lopes
Supervisors	João Coutinho
PhD	Ciências Químicas e Biológicas (UTAD)

Starting date	Junho 2022
Name	Vanessa Almeida
Supervisors	João Coutinho
PhD	Ciências Químicas e Biológicas (UTAD)
Starting date	Novembro 2021

I.1.4. PhD thesis concluded

Name	António Carlos Pinheiro Fernandes
Title	Statistical Modeling of Surface Water Quality in the Ave River Basin
PhD	Ciências Agronómicas e Florestais
Date	18 de janeiro de 2022
Supervisor	Luís Filipe Sanches Fernandes (UTAD)
Co-Supervisor	Fernando António Leal Pacheco (UTAD)

Name	Leonor Caldeira Ferreira
Title	Treatment of agro-industrial wastewaters by light-assisted Advanced Oxidation Processes”.
PhD	AgriChains: Agricultural Production Chains – from fork to farm
Date	25 de fevereiro 2022
Supervisor	Marco Lucas
Co-Supervisor	José Alcides Peres e Pedro Tavares

Name	Maria Rita Beltrão Martins
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Title	A Circular Economy approach in the Agri-food chain: using by-products and underexploited raw materials as flours for gluten-free bakery and as coagulants for wastewater treatment
PhD	AgriChains – Agricultural Production Chains – From Fork to Farm
Date	07 de outubro de 2022
Supervisor	José Alcides Peres
Co-Supervisor	Anabela Raymundo e Ana Barros
Name	Márcia Masson Mendes dos Santos
Title	Vulnerabilidade Sócio-ambiental na Evolução Temporal do Uso Solo da Bacia Hidrográfica do Rio Pindaré - MA.
PhD	Agronomia (Ciência do Solo), Universidade Estadual Paulista (UNES), campus de Jaboticabal, São Paulo, Brasil
Date	13 de dezembro de 2022
Supervisor	Teresa Cristina Tarlé Pissarra (UNESP, Brasil)
Co-Supervisor	Fernando António Leal Pacheco (UTAD)
Name	Rafal Parras
Title	Pegada Ecológica de Uso do Solo e índice de circularidade na abordagem dos serviços ecossistêmicos
PhD	Agronomia (Ciência do Solo), Universidade Estadual Paulista (UNES), campus de Jaboticabal, São Paulo, Brasil
Date	3 de agosto de 2022
Supervisor	Teresa Cristina Tarlé Pissarra (UNESP, Brasil)
Co-Supervisor	Fernando António Leal Pacheco (UTAD)

I.1.5. Master thesis concluded

Name	Carolina Moreira Gomes Santos
Title	Tratamento de lamas ativadas municipais pelo processo ultrassons-Fenton
Master	Engenharia do Ambiente
Date	20 de dezembro de 2022
Supervisor	Marco Lucas
Co-Supervisor	José Alcides Peres
Name	Gonçalo Domingos Dias Martins
Title	Auditoria Energética E Da Qualidade Do Ar Interior Do Complexo Residencial De Codessais Da Universidade De Trás-os-Montes E Alto Douro
Master	Engenharia Mecânica
Date	Junho 2022
Supervisor	Amadeu Duarte da Silva Borges
Name	Micael César Veiga Pessoa
Title	Tratamento e qualidade da água do complexo desportivo da piscina municipal coberta de São João da Pesqueira
Master	Engenharia do Ambiente
Date	16 de setembro de 2022
Supervisor	José Alcides Peres
Name	Tiago André Pinto Alves

Title	Especificações operacionais e modelação matemática de um sistema de tratamento de águas sujas de balanço energético e de emissões de GEE nulos
Master	Engenharia Mecânica
Date	Dezembro 2022
Supervisor	Amadeu Duarte da Silva Borges
Co-Supervisor	

I.2. Projects

I.2.1. European/International

1. HEI-ETEIA – Energy Transition Entrepreneurs in Action - developing a supportive academic environment for the young talents

Reference: Project Number 10036

Starting date: 2021-07-01. Ending date: 2023-07-31.

Funding by: EU (UTAD fund: 390.000,00€; Total fund: 1.200.000,00€)

Main contractor. N/A Host institution: N/A

CQVR members role: Ana Briga Sá (participant); Rosa Rego (participant), Mariana Fernandes (participant), Verónica Bermudez (participant), Maria Antunes (participant), Maria Cristina Oliveira (participant), Pedro Tavares (participant), José Ramiro Fernandes (participant).

Status: ***Ongoing project***

2. Innovative concepts and technologies for ECOlogically sustainable NUTRIent management in agriculture aiming to prevent, mitigate and eliminate pollution in soils, water and air/ECONUTRI, Project number 101081858, HORIZON

Innovation Actions. João Coutinho

I.2.2. National

I.2.2.1. CQVR Leadership

1. AgriFood XXI – Desenvolvimento e consolidação da investigação do setor agroalimentar no Norte de Portugal

Reference: NORTE-01-0145-FEDER-000041

Starting date: September 2020. Ending date: August 2023.

Funding by: Fundo Europeu de Desenvolvimento Regional (FEDER) através do NORTE 2020 (Programa Operacional Regional do Norte 2014/2020);

Funding by: Total: 2.352.869,65 € / UTAD: 941.207,94€.

Main contractor. UTAD Host institution: UTAD

CQVR members role: Fernando Nunes (coordinator).

Status: **Ongoing project**

2. AmbiVap – Solar evaporator of effluents and wastewater.

Reference: POCI-01-0247-FEDER-039938

Starting date: 2019. Ending date: 2022

Funding by: FEDER (Total fund: 312.517,34€)

Main contractor: Tojaltec/UTAD

CQVR members role: J. Claro (coordinator).

Status: **Finishing project**

3. ENTIRE - Emergence Analysis of Tailings Impacts for a Restored Aquatic Environment.

Starting date: 2021-01-01. Ending date: 2023-12-31.

Funding by: Vale, S.A. (UTAD fund: 546.875,94 €; Total fund: 752.735,94 €)

Main contractor. UTAD Host institution: UTAD

CQVR members role: Fernando A.L. Pacheco (coordinator).

4. OBTain- Objective Building Sustainability

Reference: NORTE-01-0145-FEDER-000084

Starting date: 2021-07-01. Ending date: 2023-06-30.

Funding by: FEDER (UTAD fund: 588.235,28 €; Total fund: 588.235,28 €)

CQVR members role: Verónica de Zea Bermudez (coordinator), Ana Briga Sá , Pedro Tavares, Fernando Pacheco; José Ramiro Fernandes, Marlo Lucas, Maria Cristina

Gonçalves, Maria Cristina Oliveira, Maria Antunes, Mariana Fernandes, Nuno Cristelo, Rosa Rego.

Status: **Ongoing project**

5. SMARTAGEING - Sistema de Apoio à Decisão para o Envelhecimento de Vinho do Porto Branco

Reference: Nº: 47021

Starting date: 2020 Ending date: 2023

Funding by: PRODER:492.411,37€

CQVR members role: Fernando M. Nunes (principal investigator), Fernanda Cosme (participant), Amadeu Borges (participant)

Status: **Ongoing project**

I.2.2.2. CQVR Partnership

1. Advanced adsorption-oxidation technologies for the removal of emerging contaminants from wastewater by 3D-structured carbon-materials (CATAD3.0).

Starting date: june 2021. Ending date: June 2024.

Funding by: Ministerio de Ciencia e Innovación (Espanha). Proyectos I+D+i 2020. (Total: 230.200€ / Verba UTAD: 15.600€)

CQVR members role: J. Alcides Peres

Status: **Ongoing project**

2. GREENValue - Valorização da Geração de Recursos Em Espaço Natural. AVISO Nº 13/REACT-EU/2021

Starting date: September 2022. Ending date: December 2023.

Funding by: Programa Operacional Regional do Norte (UTAD fund: 300.000,00€) Main contractor. UTAD Host institution: UTAD

CQVR members role: José A. Peres, Marco S. Lucas.

Status: **Ongoing project**

3. Move2LowC: Combustíveis de Base Biológica

Starting date: June 2020. Ending date: September 2022.

Funding by: Programa Operacional Competitividade e Internacionalização. Coordenado pela A4F, ALGA FUEL, S. (Total: 11.212.947,15€ / UTAD fund: 123.754,16€)

CQVR members role: Amadeu Borges.

Status: **Finishing project**

4. TEST³_Upscaling SARS-CoV-2: Testar, Testar, Testar: “upscaling” do diagnóstico laboratorial do SARS-CoV-2 no Centro de Testagem COVID-19 da UTAD.

Starting date: December 2020. Ending date: September 2023.

Funding by: Programa Operacional Regional do Norte (UTAD fund: 288.342,41€) Main contractor. UTAD Host institution: UTAD

CQVR members role: Raquel Chaves (coordinator), Amadeu Borges, Paula Lopes, Filomena Adega

Status: *Ongoing project*

5. Vine & Wine Portugal – Driving Sustainable Growth Through Smart Innovation

Starting date: September 2022. Ending date: September 2025.

Funding by: PRR – Plano de Recuperação e Resiliência e pelos Fundos Europeus NextGeneration EU, no âmbito das Agendas Mobilizadoras para a Reindustrialização. Global fund: 41.427.004,64€. UTAD fund: 7.875.653,67€. Host institution: UTAD

CQVR members role: Marco S. Lucas, José A. Peres, Fernando Nunes, João Coutinho.

6. Higienização de chorumes animais para potencial utilização em horticultura /CleanSlurry. PTDC/ASP-SOL/28769/2017 (concluded in september 2022) João Coutinho

I.2.3. Industrial collaborative protocols and technology transfer

1. **Projeto Hidrogasmove.** Serviço adjudicado: Dourogás Renovável - Produtora de Gás, S.A.; Amadeu Borges (coordinator); Total fund: 106.000 €; 2021-2022.

2. **Desenvolvimento e Industrialização de um Novo Pellet para Consumo nas Caldeiras da Amorim Cork,** Protocolo de colaboração com a Amorim Cork, S.A., Referência UTAD: 116-e-CIDE-2022. Valor UTAD: 36.897,42€. Coordenador UTAD: Amadeu Borges.

3. **Apoio à candidatura referente à Renovação Energética dos Edifícios da Administração Pública Central da Secretária-Geral do Ministério do Trabalho, Solidariedade e Segurança Social,** Prestação de serviços à Secretária-Geral do

Ministério do Trabalho, Solidariedade e Segurança Social. Referência UTAD: 123-e-CIDE-2022. Valor UTAD: 5.043,00€. Coordenador UTAD: Amadeu Borges

4. **Soil and Plant Laboratory for Chemical**, Physical and Biochemical Analysis for research activities and service activities for stockholders in the agri-environmental business. João Coutinho.

I.3. Outreach Activities

1. Webinar CQ-VR

- Contamination of Paraopeba River with Metals

Following the Rupture of B1 Mine-Tailings Dam in Brumadinho. 23 March 2022.

Fernando Pacheco.

I.4. Awards, Prizes and Medals

1. **Paper with Cover Picture** “Adsorption and thermocatalytic processes for winery wastewater treatment”: Nuno Jorge, Ana R. Teixeira, Vanessa Guimarães, Marco S. Lucas, José A. Peres. “Treatment of winery wastewater with a combination of adsorption and thermocatalytic processes”. *Processes* 2022, 10 (1), 75; <https://doi.org/10.3390/pr10010075> – Website: <https://www.mdpi.com/2227-9717/10/1>.
2. **Best Paper Award.** Nuno Jorge, Ana R. Teixeira, Leonilde Marchão, Marco S. Lucas; José A. Peres. “Plants as natural organic coagulant powders for winery wastewater treatment”, 1st International Electronic Conference on Horticulturae (IECHo2022), 16 April – 30 April 2022 (oral communication). IECHo 2022 Best Paper Award.
3. **Honorable mention for oral communication.** Nuno Jorge, Ana R. Teixeira, Alexandra Mendes-Ferreira, Marco S. Lucas, José A. Peres. “Combination of an aerobic bioreactor with photo-Fenton process in winery wastewater treatment”, presented at XIV Genetics and Biotechnology Conference | IV Genetics and Biotechnology Iberian Conference, Area of genetics and animal and microbial biotechnology, 31 March 2022 – 02 April 2022

I.5. Outputs

I.5.1. Book chapters

1. Guerra-Rodríguez, S.; Rodríguez-Chueca, J.; Peres, J.A.; Lucas, M.S.; Inactivation of pathogenic microorganisms with sulfate radical-based Advanced Oxidation Processes, pp. 229-251. Book “*Persulfate-based Oxidation Processes in Environmental Remediation*”, Mingshan Zhu, Zhenfeng Bian, Chun Zhao (Editors). From the book series: *Chemistry in the Environment*. Royal Society of Chemistry, 2022. ISBN 978-1-83916-308-1. DOI: <https://doi.org/10.1039/9781839166334-00229>.
2. Martins, L., Oliveira, A., Fernandes, L.S., Pacheco, F., 2022. The Role of Hydraulic Turnover Time in the Assessment of Water Quality in Portuguese Aquifer Systems. *Advances in Science, Technology and Innovation*, pp. 543–546. https://doi.org/10.1007/978-3-030-72543-3_122

I.5.2. Publications in journals of Journal Citation Reports

I.5.2.1. Q1 and Q2 Journals

1. Acuña-Alonso, C., Álvarez, X., Valero, E., Pacheco, F.A.L., 2022. Modelling of threats that affect Cyano-HABs in an eutrophicated reservoir: First phase towards water security and environmental governance in watersheds. *Sci. Total Environ.* 809, 152155. <https://doi.org/10.1016/j.scitotenv.2021.152155> **Q1**
2. Beltrão-Martins, R.; Jorge, N.; Lucas, M.S.; Raymundo, A.; Barros, A.I.R.N.A.; **Peres, J.A.**, “Food by-products valorization by using plant-based coagulants combined with AOPs for agro-industrial wastewater treatment”, *International Journal of Environmental Research and Public Health*, **19** (7), 4134 (2022). **Q2**
3. Beltrão-Martins, R.; Garzón, R.; **Peres, J.A.**; Barros, A.I.R.N.A.; Raymundo, A.; Rosell, C.M.; “Acorn flour and sourdough: an innovative combination to improve gluten free bread characteristics”, *European Food Research and Technology* (2022). <https://doi.org/10.1007/s00217-022-03996-y>. **Q2**
4. Beltrão-Martins, R.; Nunes, M.C.; Gouvinhas, I.; Ferreira, L.M.M.; **Peres, J.A.**; Barros, A.I.R.N.A.; Raymundo, A., “Apple flour in a sweet gluten free bread formulation: impact on nutritional value, glycemic index, structure and sensory profile”, *Foods*, **11**, 3172 (2022), <https://doi.org/10.3390/foods11203172>. **Q1**

5. Beltrão-Martins, R.; Gouvinhas, I.; Nunes, M.C.; Ferreira, L.M.; **Peres, J.A.**; Raymundo, A.; Barros, A.I.R.N.A; “Acorn flour from holm oak (*Quercus rotundifolia*): assessment of nutritional, phenolic, and technological profile”, *Current Research in Food Science*, 5, 2211–2218 (2022), <https://doi.org/10.1016/j.crfs.2022.11.003> **Q1**
6. Carvalho, M, Carnide, V., Sobreira, C., Isaura Castro, I., Coutinho, J., Barros, A., and Rosa, E. 2022. Cowpea Immature Pods and Grains Evaluation: An Opportunity for Different Food Sources. *Plants*, 11(16), 2079. DOI: 10.3390/plants11162079 **Q1**
7. de Mendonça, G.C., Costa, R.C.A., Parras, R., de Oliveira, L.C.M., Abdo, M.T.V.N., Pacheco, F.A.L., Pissarra, T.C.T., 2022. Spatial indicator of priority areas for the implementation of agroforestry systems: An optimization strategy for agricultural landscapes restoration. *Sci. Total Environ.* 839, 156185. <https://doi.org/10.1016/j.scitotenv.2022.156185> **Q1**
8. Jorge, N.; Teixeira, A.R.; Guimarães, V.; Lucas, M.S.; Peres, J.A., “Treatment of winery wastewater with a combination of adsorption and thermocatalytic processes”, *Processes*, 10 (1), 75 (2022). <https://doi.org/10.3390/pr10010075>. **Q2**
9. Mendes, R.G., do Valle Junior, R.F., de Melo Silva, M.M.A.P., de Moraes Fernandes, G.H., Fernandes, L.F.S., Fernandes, A.C.P., Pissarra, T.C.T., de Melo, M.C., Valera, C.A., Pacheco, F.A.L., 2022a. A partial least squares-path model of environmental degradation in the Paraopeba River, for rainy seasons after the rupture of B1 tailings dam, Brumadinho, Brazil. *Sci. Total Environ.* 851, 158248. <https://doi.org/10.1016/j.scitotenv.2022.158248> **Q1**
10. Mendes, R.G., do Valle Junior, R.F., de Melo Silva, M.M.A.P., Sanches Fernandes, L.F., Pinheiro Fernandes, A.C., Pissarra, T.C.T., de Melo, M.C., Valera, C.A., Pacheco, F.A.L., 2022b. A partial least squares-path model of causality among environmental deterioration indicators in the dry period of Paraopeba River after the rupture of B1 tailings dam in Brumadinho (Minas Gerais, Brazil). *Environ. Pollut.* 306, 119341. <https://doi.org/10.1016/j.envpol.2022.119341> **Q1**
11. Pacheco, F., Melo, M., Pissarra, T., Fernandes, L., 2022. Water-Secure River Basins: A Compromise of Policy, Governance and Management with the Environment. *Water* 14, 1329. <https://doi.org/10.3390/w14091329> **Q2**
12. Pacheco, F.A.L., de Oliveira, M.D., Oliveira, M.S., Libânio, M., do Valle Junior, R.F., de Melo Silva, M.M.A.P., Pissarra, T.C.T., de Melo, M.C., Valera, C.A., Fernandes, L.F.S., 2022b. Water security threats and challenges following the rupture of large tailings dams. *Sci. Total Environ.* 834, 155285. <https://doi.org/10.1016/j.scitotenv.2022.155285> **Q1**
13. Pacheco, F.A.L., do Valle Junior, R.F., de Melo Silva, M.M.A.P., Pissarra, T.C.T., Carvalho de Melo, M., Valera, C.A., Sanches Fernandes, L.F., 2022c.

- Prognosis of metal concentrations in sediments and water of Paraopeba River following the collapse of B1 tailings dam in Brumadinho (Minas Gerais, Brazil). *Sci. Total Environ.* 809, 151157. <https://doi.org/10.1016/j.scitotenv.2021.151157> Q1
14. Pissarra, T.C.T., Costa, R.C.A., Valle Junior, R.F. do, Silva, M.M.A.P. de M., Costa, A.M. da, Sanches Fernandes, L.F., Carvalho de Melo, M., Valera, C.A., Pacheco, F.A.L., 2022. Role of Mine Tailings in the Spatio-Temporal Distribution of Phosphorus in River Water: The Case of B1 Dam Break in Brumadinho. *Water* 14, 1572. <https://doi.org/10.3390/w14101572> Q2
 15. Santos, R.M.B., Cortes, R.M.V., Fernandes, L.F.S., Pacheco, F.A.L., Varandas, S.D.G.P., Monteiro, S.M.V., 2022a. Combining Multiple Biomarkers to Evaluate the Environmental Stress in Cyprinid Populations. *Sustainability* 14, 12596. <https://doi.org/10.3390/su141912596> Q2
 16. Santos, R.M.B., Monteiro, S.M.V., Cortes, R.M.V., Pacheco, F.A.L., Fernandes, L.F.S., 2022b. Seasonal Differences in Water Pollution and Liver Histopathology of Iberian Barbel (*Luciobarbus bocagei*) and Douro Nase (*Pseudochondrostoma duriense*) in an Agricultural Watershed. *Water* 14, 444. <https://doi.org/10.3390/w14030444> Q2
 17. Silva, A.A., Carvalho, M., Coutinho, J., Vasconcelos, E., and Figueiro, D. 2022. Dairy Slurry Application to Stubble-Covered Soil: A Study on Sustainable Alternatives to Minimize Gaseous Emissions. *Agriculture*, 12(7), 1021. DOI: 10.3390/agriculture12071021 Q1
 18. Silva, A.A., Carvalho, M., Coutinho, J., Vasconcelos, E., and Figueiro, D. 2022. Can Dairy Slurry Application to Stubble, without Incorporation into the Soil, Be Sustainable? *Plants*, 11(11), 1473. DOI:10.3390/plants11111473 Q1
 19. Teixeira, A.R.; Jorge, N.; Fernandes, J.R.; Lucas, M.S.; Peres, J.A., "Textile dye removal by *Acacia dealbata* Link. pollen adsorption combined with UV-A/NTA/Fenton process", *Topics in Catalysis*, 2022, <https://doi.org/10.1007/s11244-022-01655-w>. Q2
 20. Tomaz, A., Martins, I., Catarino, A., Mourinha, C., Dôres, J., Fabião, M., Boteta, L., Coutinho, J., Patanita, M., and Palma, P. 2022. Insights into the Spatial and Temporal Variability of Soil Attributes in Irrigated Farm Fields and Correlations with Management Practices: A Multivariate Statistical Approach. *Water* 14(20), 3216. DOI: 10.3390/w14203216 Q2

I.5.2.3. New Journals (Impact factor pending)

1. Jorge, N.; Teixeira, A.R.; Lucas, M.S.; Peres, J.A., “Agro-industrial wastewater treatment with *Acacia dealbata* coagulation/flocculation and photo-Fenton based processes”, *Recycling*, 7, 54 (2022), <https://doi.org/10.3390/recycling7040054>
2. Pacheco, F.A.L., Lima, V.H.S., Pissarra, T.C.T., do Valle Junior, R.F., Silva, M.M.A.P. de M., de Melo, M.C., Valera, C.A., Moura, J.P., Fernandes, L.F.S., 2022d. A framework model to determine groundwater contamination risk based on a L-Matrix of aquifer vulnerability and hazardous activity indices. *MethodsX* 9, 101858. <https://doi.org/10.1016/j.mex.2022.101858>
3. Pacheco, F.A.L., de Melo, M.C., Pissarra, T.C.T., Álvarez, X., Martins, L.M. de O., Fernandes, A.C.P., Moura, J.P., Fernandes, L.F.S., 2022a. A groundwater security model based on hydraulic turnover times and flow compartments. *MethodsX* 9, 101766. <https://doi.org/10.1016/j.mex.2022.101766>
4. Perdigão, A., Pereira, J.L.S., Moreira, N., Trindade, H., and Coutinho, J. 2022. Assessment of Mineralized Nitrogen During Maize Growth Succeeding Different Winter Cover Crops in the Mediterranean Environment. *Open Agriculture Journal*, 16(1), e187433152208150; DOI: 10.2174/18743315-v16-e2208150

I.5.3. Publications in proceedings

1. Jorge, N.; Teixeira, A.R.; Marchão, L.; Lucas, M.S.; Peres, J.A., “Application of combined Coagulation–Flocculation–Decantation/photo-Fenton/adsorption process for winery wastewater treatment”, *Engineering Proceedings*, 2022, 19, 22. <https://doi.org/10.3390/ECP2022-12653>, 6 pp.
2. Jorge, N.; Amor, C.; Teixeira, A.R.; Marchão, L.; Lucas, M.S.; Peres, J.A., “Combination of Coagulation-Flocculation-Decantation with sulfate radicals for agro-industrial wastewater treatment”, *Engineering Proceedings*, 2022, 19, 19. <https://doi.org/10.3390/ECP2022-12610>, 5 pp.
3. Jorge, N.; Amor, C.; Teixeira, A.R.; Marchão, L.; Lucas, M.S.; Peres, J.A., “Treatment of winery wastewater by an EDDS-photo-Fenton process: assessment of UV-C, UV-A and solar radiation”, *Engineering Proceedings*, 2022, 19, 25. <https://doi.org/10.3390/ECP2022-12652>, 5 pp.
4. Jorge, N.; Santos, C.; Teixeira, A.R.; Marchão, L.; Tavares, P.B.; Lucas, M.S.; Peres, J.A., “Treatment of agro-industrial wastewaters by coagulation-flocculation-

- decantation and Advanced Oxidation Processes - a literature review”, *Engineering Proceedings*, 2022, 19, 33. <https://doi.org/10.3390/ECP2022-12665>, 6 pp.
5. Jorge, N.; Teixeira, A.R.; Marchão, L.; Tavares, P.B.; Lucas, M.S.; Peres, J.A., “Removal of methylene blue from aqueous solution by application of plant-based coagulants”, *Engineering Proceedings*, 2022, 19, 38. <https://doi.org/10.3390/ECP2022-12659>, 7 pp.
 6. Jorge, N.; Teixeira, A.R.; Marchão, L.; Goufo, P.; Lucas, M.S.; Peres, J.A., “Application of NaCl plant extracts to decrease the costs of microfiltration for winery wastewater treatment”, *Chemistry Proceedings*, 2022, 10, 35. <https://doi.org/10.3390/IOCAG2022-12331>, 6 pp.
 7. Jorge, N.; Teixeira, A.R.; Marchão, L.; Tavares, P.B.; Lucas, M.S.; Peres, J.A., “Application of ferrocene in the treatment of winery wastewater in a heterogeneous photo-Fenton process”, *Materials Proceedings*, 2022, 9, 12. <https://doi.org/10.3390/materproc2022009012>, 6 pp.
 8. Santos, C.; Jorge, N.; Teixeira, A.R.; Peres, J.A.; Lucas, M.S., “Treatment of municipal activated sludge by ultrasound-Fenton process”, *Engineering Proceedings*, 2022, 19, 7. <https://doi.org/10.3390/ECP2022-12666>, 7 pp

I.5.4. Oral presentations at national and international meetings

1. Fernando A.L. Pacheco, “VALORAÇÃO DA ÁGUA COMO SERVIÇO AMBIENTAL”. V Workshop on Policy of Use and Governance of Soil and IV International Sustainability Seminar in Water Resources, held on 11/28/2022 to 11/30/2022, in the city of Belo Horizonte
2. Jorge, N.; Teixeira, A.R.; Lucas, M.S.; Peres, J.A., “Combination of coagulation-flocculation-decantation with Fenton-based processes for agro-industrial wastewater treatment”, *XXVI Encontro Galego-Portugues de Química*, Santiago de Compostela (Espanha), 16-18 novembro 2022.
3. Jorge, N.; Teixeira, A.R.; Lucas, M.S.; Peres, J.A., “Treatment of a winery wastewater by a peroxymonosulfate/cobalt/UV system”, *XXVI Encontro Galego-Portugues de Química*, Santiago de Compostela (Espanha), 16-18 novembro 2022.
4. Jorge, N.; Teixeira, A.R.; Marchão, L.; Goufo, P.; Lucas, M.S.; Peres, J.A., “Application of NaCl-plant extracts to decrease the costs of microfiltration for winery wastewater treatment”, *1st International Online Conference on Agriculture - Advances in Agricultural Science and Technology (IOCAG2022)*, 10–25 February 2022.
5. Jorge, N.; Teixeira, A.R.; Mendes-Ferreira, A.; Lucas, M.S.; Peres, J.A., “Combination of an aerobic bioreactor with photo-Fenton process in winery wastewater treatment”,

- XIV Genetics and Biotechnology Conference/IV Genetics and Biotechnology Iberian Conference*, UTAD, Vila Real, 31 março-2 abril 2022 (Book of Abstracts p. 54).
6. Martins, R.B.; Gouvinhas, I.; Nunes, M.C.; Ferreira, L.M.; Peres, J.A.; Raymundo A.; Barros, A.I.R.N.A.; “Acorn flour: an ingredient from the past ready for the future”, *Transcolab Summit - Trend in grain-based foods*, Instituto Politécnico de Bragança, 23-25 March 2022.
 7. Nuno Jorge, Ana R. Teixeira, Leonilde Marchão, Marco S. Lucas; José A. Peres. “Plants as natural organic coagulant powders for winery wastewater treatment”, *1st International Electronic Conference on Horticulturae (IECHo2022)*, 16 April – 30 April 2022 (oral communication). IECHo 2022 Best Paper Award.
 8. Nuno Jorge, Ana R. Teixeira, Leonilde Marchão, Pedro B. Tavares, Marco S. Lucas; José A. Peres. “Application of ferrocene for the treatment of winery wastewater in a heterogeneous photo-Fenton process”, *3rd International Online-Conference on Nanomaterials (IOCN2022)*, 25 April – 10 May 2022 (oral communication).
 9. Nuno Jorge, Ana R. Teixeira, Leonilde Marchão, Marco S. Lucas; **José A. Peres**. “Application of coagulation-flocculation-decantation with sulfate radicals for agro-industrial wastewater treatment”, *The 1st International Electronic Conference on Processes: Processes System Innovation*, 17 May – 31 May 2022 (oral communication).
 10. Nuno Jorge, Ana R. Teixeira, Leonilde Marchão, Marco S. Lucas; **José A. Peres**. “Treatment of winery wastewater by an EDDS-photo-Fenton process. Assessment of UV-C, UV-A and solar radiation”, *The 1st International Electronic Conference on Processes: Processes System Innovation*, 17 May – 31 May 2022 (oral communication).
 11. Nuno Jorge, Ana R. Teixeira, Leonilde Marchão, Marco S. Lucas; **José A. Peres**. “Application of combined coagulation-flocculation-decantation/ photo-Fenton/ adsorption process for winery wastewater treatment”, *The 1st International Electronic Conference on Processes: Processes System Innovation*, 17 May – 31 May 2022 (oral communication).
 12. Nuno Jorge, Ana R. Teixeira, Leonilde Marchão, Pedro B. Tavares, Marco S. Lucas; José A. Peres. “Removal of methylene blue from aqueous solution by application of plant-based coagulants”, *The 1st International Electronic Conference on Processes: Processes System Innovation*, 17 May – 31 May 2022 (oral communication).
 13. Nuno Jorge, Ana R. Teixeira, A. Mendes-Ferreira, Marco S. Lucas, José A. Peres. “Degradation of organic matter from winery wastewater by a biologic-photo-

- Fenton system”, 5th International Conference on Green Chemistry and Sustainable Engineering (GreenChem-22), Roma, 20-22 July 2022.
14. Nuno Jorge, Ana R. Teixeira, P. Goufo, Marco S. Lucas, José A. Peres. “Degradation of organic contaminants in winery wastewater by coagulation-microfiltration-photo-Fenton process”, 5th International Conference on Green Chemistry and Sustainable Engineering (GreenChem-22), Roma, 20-22 July 2022.
 15. Nuno Jorge, Ana R. Teixeira, P. Goufo, Marco S. Lucas, José A. Peres. “Removal of phenolic compounds from winery and olive mill wastewater by NTA-photo-Fenton process”, 5th International Conference on Green Chemistry and Sustainable Engineering (GreenChem-22), Roma, 20-22 July 2022.
 16. Renata Cristina Araújo Costa, Fernando António Leal Pacheco, Luís Filipe Sanches Fernandes, Teresa Cristina Tarlé Pissarra, Marília Carvalho de Melo. A INFLUÊNCIA DO CONFLITO DE USO DO SOLO NO COMPARTIMENTO HIDROLÓGICO AFETADO PELO ROMPIMENTO DA BARRAGEM DE REJEITO B1 BRUMADINHO. XVI Simpósio de Recursos Hídricos do Nordeste 15^o Simpósio de Hidráulica e Recursos Hídricos dos Países De Língua Portuguesa, 06 a 11 de novembro de 2022, Senac Caruaru, Pernambuco, Brazil.
 17. Teixeira, A.R.; Jorge, N.; Lucas, M.S.; Peres, J.A., “Remoção de parabenos por processos Fenton e foto-Fenton”, *XXVI Encontro Galego-Portugues de Química*, Santiago de Compostela (Espanha), 16-18 novembro 2022.
 18. Victor Hugo SARRAZIN LIMA, Fernando António LEAL PACHECO², João Paulo MOURA, Teresa Cristina TARLÉ PISSARRA, Renato Farias do VALLE JUNIOR, Maytê Maria Abreu Pires de MELO SILVA, Carlos Alberto VALERA, Marília Carvalho de MELO, Luís Filipe SANCHES FERNANDES. ANÁLISE DA VULNERABILIDADE INTRÍNSECA DAS ÁGUAS SUBTERRÂNEAS DO RIO PARAOPEBA (MINAS GERAIS – BRASIL). 13.^o Seminário sobre Águas Subterrâneas, Instituto Superior Técnico, Lisboa, 28-29 de abril de 2022.

I.5.5. Poster presentations at national and international meetings

I.5.5.1. International meetings

1. Ana R. Teixeira, S. Afonso, Nuno Jorge, B. Gonçalves, Marco S. Lucas, José A. Peres, “Removal of phenolic compounds from winery and olive mill wastewater by NTA-photo-Fenton process”, 5th International Conference on Green Chemistry and Sustainable Engineering (GreenChem-22), Roma, 20-22 July 2022.

2. Gomes, A.; Borges, A.; Peres, J.A.; Lucas, M.S., "Application of Advanced Oxidation Processes to industrial and agro-industrial wastewater for energy production: a review", *XXVI Encontro Galego-Portugues de Química*, Santiago de Compostela (Espanha), 16-18 novembro 2022.
3. Jorge, N.; Teixeira, A.R.; Tavares, P.B.; Crespi, A.L.; Lucas, M.S., Peres, J.A., "Treatment of winery wastewater by combination of organic coagulants powders and photocatalytic processes", *VII International Congress of Mountain and Steep Slopes Viticulture. Extreme viticulture: from a cultural landscape to an economic and environmental sustainability*, UTAD, Vila Real, Portugal, 12-14 May 2022. Book of Abstracts, ISBN: 978-989-704-471-7, p.63.
4. Jorge, N.; Teixeira, A.R.; Lucas, M.S.; Peres, J.A., "Application of plant-based coagulants with solar-Fenton as an economic and environmentally safe process for winery wastewater treatment", *VII International Congress of Mountain and Steep Slopes Viticulture. Extreme viticulture: from a cultural landscape to an economic and environmental sustainability*, UTAD, Vila Real, Portugal, 12-14 May 2022. Book of Abstracts, ISBN: 978-989-704-471-7, p.74.
5. Marchão, L.; Peres, J.A.; Tavares, P.B.; Lucas, M.S., "Cultivation of green microalgae in winery wastewater", *VII International Congress of Mountain and Steep Slopes Viticulture. Extreme viticulture: from a cultural landscape to an economic and environmental sustainability*, UTAD, Vila Real, Portugal, 12-14 May 2022. Book of Abstracts, ISBN: 978-989-704-471-7, p.75.
6. Santos, C.; Jorge, N.; Peres, J.A.; Lucas, M.S., "Municipal wastewater treatment by ultrasound-Fenton processes for organic matter and biomass reduction", *XIV Genetics and Biotechnology Conference | IV Genetics and Biotechnology Iberian Conference*, UTAD, Vila Real, 31 março-2 abril 2022 (Book of Abstracts p. 78).
7. Teresa Cristina Tarlé Pissarra; Fernando António Leal Pacheco; Renato Farias do Valle Junior; Maytê Maria Abreu Pires de Melo Silva; Carlos Alberto Valera; Marília Carvalho de Melo; Luís Filipe Sanches Fernandes. STREAMS CHARACTERISTICS OF THE PARAOPEBA RIVER WATERSHED, MINAS GERAIS, BRAZIL. 10th International Conference of the International Association of Geomorphologists (IAG), "Geomorphology and Global Change", Coimbra, Portugal, 12 to 16 September 2022.

I.5.5.2. National meetings

1. Teresa Cristina Tarlé Pissarra, Renato Farias Do Valle Junior, Maytê Maria Abreu Pires De Melo Silva, Luís Filipe Sanches Fernandes, Fernando António Leal Pacheco. ÁREAS PRIORITARIAS PARA O MANEJO E CONSERVAÇÃO DO SOLO

E DA ÁGUA EM BACIAS HIDROGRÁFICAS. **LI Congresso Brasileiro de Engenharia Agrícola**, 27 a 29 de outubro de 2022, Pelotas, Rio Grande do Sul, Brazil.

I.6. Participation in National and International Organizations

I.6.1. Participation in Committees

1. Chairman da *5th International Conference on Green Chemistry and Sustainable Engineering (GreenChem-22)*, Roma (Itália), 20-22 July 2022. José Alcides Peres
2. Membros do Scientific Committee of *5th International Conference on Green Chemistry and Sustainable Engineering (GreenChem-22)*, Roma (Itália), 20-22 July 2022. J. A. Peres; Marco S. Lucas.
3. Membro do *Organizing Committee of 6th International Congress on Water, Waste and Energy Management (WWEM-22)*, Roma (Itália), 20-22 July 2022. José Alcides Peres
4. Membro do *Scientific Committee of 6th International Congress on Water, Waste and Energy Management (WWEM-22)*, Roma (Itália), 20-22 July 2022. José Alcides Peres
5. Membros do National Scientific Committee (NSC) da 5th Iberoamerican Conference on Advanced Oxidation Technologies (V CIPOA), Peru, November 2022. J. A. Peres; Marco S. Lucas
6. Membro da *Comissão Científica das II Jornadas de Estudo e Proteção do Ambiente*, UTAD, Vila Real, 2-4 março 2022. José Alcides Peres
7. Member of the Technical-Scientific Committee of FAO – GLOSOLAN (Global Soil Analysis Laboratories Network). João Coutinho
8. Organizing committee, V Workshop on Policy of Use and Governance of Soil and IV International Sustainability Seminar in Water Resources, held on 11/28/2022 to 11/30/2022, in the city of Belo Horizonte. Member: Fernando A.L. Pacheco.
9. Organizing committee, ENVIRONFORUM2023 April 10-12, 2023, Sercotel Sorolla Palace, Valencia, Spain. Member: Fernando A.L. Pacheco.
10. Portuguese represent in FAO - GLOSOLAN and EUROSOLAN (Euroasian Soil Analysis Laboratories Network). João Coutinho
11. Scientific Committee, XI National Congress of Geology (XI CNG2023), July 16-20, 2023, at Pole 2 of the University of Coimbra. Member: Fernando A.L. Pacheco
12. Scientific Committee, XIII Congresso Nacional e XIII Congresso Ibérico de Geoquímica, Puertollano, 25-27 de abril de 2022. Member: Fernando A.L. Pacheco.

I.6.2. Participation in editorial and special issues of international scientific journals

I.6.2.1. Associate Editor

1. Arabian Journal of Geosciences, Springer Nature Switzerland AG, Associate Editor: Fernando A.L. Pacheco
2. EAgrri: Journal of the Brazilian Association of Agricultural Engineering. Associate Editor: Fernando A.L. Pacheco
3. Frontiers in Environmental Chemistry, Associate Editor – Chemical Treatments. Marco S. Lucas,
4. Heliyon, Elsevier B.V. / Cell Press, Radarweg 29, Amsterdam 1043 NX, The Netherlands, Associate Editor: Fernando A.L. Pacheco
5. Science of the Total Environment, Elsevier B.V., Radarweg 29, Amsterdam 1043 NX, The Netherlands, Associate Editor: Fernando A.L. Pacheco

I.6.2.2. Editorial Board Member

1. International Journal of Environmental Research and Public Health, MDPI, St. Alban-Anlage 66. 4052 Basel, Switzerland. Section Board Member: Fernando A.L. Pacheco
2. Membro do Editorial Board da revista “International Journal of Environmental Research and Public Health” (IJERPH), MDPI. José Alcides Peres
3. Membro do Editorial Board da revista “Processes”, MDPI. José Alcides Peres
4. Membro do Editorial Board da revista “Processes”, MDPI. Marco S. Lucas
5. Scientific Reports, Springer Nature Switzerland AG, Editorial Board Member: Fernando A.L. Pacheco
6. Sustainability, MDPI, St. Alban-Anlage 66. 4052 Basel, Switzerland. Section Board Member: Fernando A.L. Pacheco
7. Membro do Editorial Board da revista “Water”, MDPI. Marco S. Lucas

I.6.2.3. Advisory Board Member

1. Water: MDPI, St. Alban-Anlage 66. 4052 Basel, Switzerland. Advisory Board Member: Fernando A.L. Pacheco
2. SCI: MDPI, St. Alban-Anlage 66. 4052 Basel, Switzerland. Advisory Board Member: Fernando A.L. Pacheco

I.6.2.4. Special Issue Guest Editor

1. Editor do número especial da revista "Water", intitulado "Advanced Oxidation Processes for Water and Wastewater Treatment". José Alcides Peres
2. Editor do número especial da revista "International Journal of Environmental Research and Public Health", intitulado "Decontamination of Water and Wastewater via Advanced Oxidation Processes". José Alcides Peres
3. Guest Editors do Special Issue "Decontamination of Water and Wastewater via Advanced Oxidation Processes" do "International Journal of Environmental Research and Public Health". J. A. Peres, Marco S. Lucas
4. International Journal of Environmental Research and Public Health: "Sediments, Metals and Freshwater: Interfaces That Can Impact Riverine Environments". Section: Sustainable Water Management. Guest Editor: Fernando A.L. Pacheco. Period: July 2019 to January 2024. IJERPH | Special Issue: Sediments, Metals and Freshwater: Interfaces That Can Impact Riverine Environments (mdpi.com)
5. Methods X: Ecosystem services: mapping and pricing. Special Issue on Ecosystem services: mapping and pricing - Forthcoming Special Issues - MethodsX - Journal - Elsevier
6. Scientific Reports: Groundwater resources. Groundwater resources (nature.com)
7. Sustainability: "Land and Water Degradation in Catchments: The Role of Remote Sensing for Assessment and Management", Section: Sustainable Water Management. Guest Editor: Fernando A.L. Pacheco. Period: November 2019 to January 2023
8. Topic editor do Special Issue "Advanced Oxidation Process: Applications and Prospects". Cinco revistas do grupo MDPI: "International Journal of Environmental Research and Public Health", "Catalysts", "Processes", "Sci", "Water". José Alcides Peres
9. Topic Editor: Water Reclamation and Reuse, (MDPI Journals: Water; ChemEngineering; Membranes; Applied Sciences) Marco S. Lucas
10. Water: "Water Security and Governance in Catchments II", Section: Water Resources Management, Policy and Governance. Guest Editor: Fernando A.L. Pacheco. Period: March 2022 to June 2023
11. Water: "Impacts of Anthropogenic Activities on Watersheds in a Changing Climate II", Section: Water and Climate Change. Guest Editor: Fernando A.L. Pacheco. Period: November 2020 to January 2023

Part II - Food chemistry

II.1. Advanced Education

II.1.1. Postdoctoral students

II.1.2. PhD students

Name Larissa Marques Wirgues

Supervisors António Manuel Jordão

PhD Engenharia Agronómica

Starting date 2022

Name Catarina Isabel Patrício Sá Marques Gomes

Supervisors Alice Vilela, Elisete Correia, Lia-Tânia Dinis

PhD Agrichains, UTAD

Starting date October 2020

Name Juliana Nair Milheiro Ferreira

Supervisors Fernando Hermínio Nunes, Maria Fernanda Gil Cosme Martins

PhD AgriChains , UTAD

Starting date December 2017

Name João Rafael Rodrigues Siopa

Supervisors Fernando Hermínio Nunes, Fernanda Cosme e Miguel Ribeiro

PhD Chemical and Biological Sciences, UTAD

Starting date December 2020

Name Elisa Costa

Supervisors Fernando Hermínio Nunes, Fernanda Cosme

PhD Chemical and Biological Sciences, UTAD

Starting date December 2020

Name Carlos Martins Gomes

Supervisors Amélia Maria Lopes da Silva, Fernando M. Nunes
PhD Chemical and Biological Sciences, UTAD
Starting date December 2019

Name Sandra Cristina Pinto Martins
Supervisors Carlos Correia, Fernando Hermínio Nunes, Alexandre Gonçalves
PhD Agrichains, UTAD
Starting date December 2017

Name Tatiane Otto De França
Supervisors António M. Jordão
PhD Agronomy - State University of the Central West, Paraná, Brasil
Starting date October 2021

Name Tiago José Monteiro Durães
Supervisors Fernando Hermínio Nunes, Maria Fernanda Gil Cosme Martins, Luís Avelino da Silva Coutinho Patarata
PhD Chemical and Biological Sciences, UTAD
Starting date October 2021

II.1.4. PhD thesis concluded

Name Sandrine dos Santos Ferreira
Title Caracterização Química e Potenciais Benefícios para a Saúde das Principais Cultivares de Sabugueiro Portuguesas (*Sambucus nigra* L.): uma Contribuição para a Valorização da Baga de Sabugueiro do Vale de Varosa
Master Agricultural Production Chains – From Fork to Farm Agrichains
Date 17 de julho 2022
Supervisor Fernando M. Nunes, Amélia M. Silva

II.1.5. Master thesis concluded

Name	Rita Esteves de Oliveira Vasques Cepêda
Title	Caracterização de microrganismos do vinho produtores de fenóis voláteis e pesquisa de bio-estratégias para o seu controlo
Master	Mestrado em Enologia e Viticultura
Date	27 de julho 2022
Supervisor	António Inês
Name	Ana Carolina Rodrigues Lúcio Gonçalves
Title	The origin of pinking phenomenon of white wines. Further insights into the pinking phenomenon
Master	Mestrado em Engenharia Alimentar
Date	2022
Supervisor	Fernando Nunes
Co-Supervisor	Fernanda Cosme
Name	Marianna di Battista
Title	Impact of vine age on grape composition: a review.
Master	Mestrado em Engenharia de Viticultura e Enologia/Vinifera EuroMaster
Date	3 Junho 2022
Supervisor	António Manuel Jordão
Name	Sara Marques Gomes
Title	Desenvolvimento de um processo de colagem para a remoção do TCA dos vinhos tintos utilizando o pó de cortiça otimizado

Master	Mestrado em Enologia e Viticultura
Date	2022
Supervisor	Alice Vilela
Co-Supervisor	Fernanda Cosme

II.2. Short Training and Updating courses

1. **Enology Technical-Scientific Course.** December 6th to 9th, 2022, Universidade Estadual do Centro-Oeste – UNICENTRO, Guarapuava, Paraná State, Brazil.

II.3. Outreach activities

4. **International Event** “Prevention of nosocomial infections and antimicrobial resistance: One Health perspective” (António Inês, Ana Cláudia, Patrícia Poeta, Ana Sampaio) Vila Real (17 November). António Inês
5. **Seminário Ibero-Americano de História e Cultura da Alimentação - REFEIÇÕES,** UTAD Data: 24 a 28 outubro 2022 (Comissão organizadora UTAD –Carla Gonçalves, Cristina Saraiva, Sandra Abreu, Veronique Joukes, António Inês; UERJ - Débora Martins dos Santos, Flávia dos Santos Barbosa Brito; UNIFESO - Ariane Cristina Thoaldo Romeiro; UFRJ - Alexandre dos Santos Brito). António Inês
6. Webinar CQ-VR
 - Celiac disease and gluten misconceptions decoded. 27 April 2022. José Miguel Ribeiro

II.4. Projects

II.4.1. European/International

II.4.1.1. CQVR Partnership

1. **MERGO – Mooc in Enology aimed at Reinforcing competences applying Game-based approach and Olfactive learning for the wine tasting.** Reference: N^o: 2020-1-IT02-KA203-080040
Starting date: 2020. Ending date: 2023
Funding by: ERASMUS+ - 47.687,00 €

CQVR members role: Fernando M. Nunes (participant), Fernanda Cosme (UTAD coordinator), Luis Filipe-Ribeiro (participant)

Status: **Ongoing project**

2. Improving Mediterranean supply chain through innovative agro-food business to strengthen small-scale farmers competitiveness, using prickly pear and fig as case study.

Reference: InovFarmer.MED - PRIMA Project (Section 2 Call multi-topics 2021) Starting date: 2021 Ending date: 2024

Funding by: IPViseu (total fund: 130.000€)

Main contractor: IPViseu

CQVR member role: António M. Jordão (participant)

Status: **Ongoing project**

II.4.2. National

II.4.2.1. CQVR Leadership

1. AgriFood XXI – Desenvolvimento e consolidação da investigação do setor agroalimentar no Norte de Portugal

Reference: NORTE-01-0145-FEDER-000041

Starting date: September 2020. Ending date: August 2023.

Funding by: Fundo Europeu de Desenvolvimento Regional (FEDER) através do NORTE 2020 (Programa Operacional Regional do Norte 2014/2020);

Funding by: Total: 2.352.869,65 € / UTAD: 941.207,94€.

Main contractor. UTAD Host institution: UTAD

CQVR members role: Fernando Nunes (coordinator).

Status: **Ongoing project**

2. BlueEnology – Desenvolvimento de um adjuvante proteico de microalgas para uso enológico

Reference: NORTE-01-0247-FEDER-047005

Starting date: 2021 Ending date: 2023

Funding: 164.947,72€

CQVR members role: Fernando M. Nunes (principal investigator), Fernanda Cosme (participant), António Inês (participant).

Status: **Starting project**

3. e-Flavor.

Reference: POCI-01-0247-FEDER-049337

Starting date: 2021 Ending date: 2023.

Funding by: FEDER, through the Competitiveness and Internationalization Operational Program (total fund: 499.632,82€).

Main contractor: UTAD.

CQVR member role: Alice Vilela (ordinator).

Status: ***Starting project***

4. SMARTAGEING - Sistema de Apoio à Decisão para o Envelhecimento de Vinho do Porto Branco

Reference: N^o: 47021

Starting date: 2020 Ending date: 2023

Funding by: PRODER:492.411,37€

CQVR members role: Fernando M. Nunes (principal investigator), Fernanda Cosme (participant), Amadeu Borges (participant)

Status: ***Ongoing project***

II.4.2.2. CQVR Partnership

1. IntegraValor – Estratégia Integrada de valorização de subprodutos agroalimentares.

Reference: POCI-01-0247-FEDER-072241.

Starting date: 2021 Ending date: 2023.

Funding: 172.541,70€.

CQVR members role: Fernando M. Nunes (UTAD coordinator), Fernanda Cosme (participant), António Inês (participant), Alice Vilela (participant).

Status: ***Ongoing project.***

2. Fungi4Health - Produção de cogumelos na valorização de sub-produtos agroalimentares e sua valorização em alimentos funcionais e cosméticos naturais

Reference: NORTE-01-0247-FEDER070171

Starting date: 2021 Ending date: 2023 Funding: 172.541,70 €

CQVR members role: Fernando M. Nunes (participant)

Status: ***Ongoing project.***

3. InovC+: Ecosistema de Inovação Inteligente da Região Centro - Valorização económica e transferência do conhecimento científico e tecnológico.

Reference: CENTRO-01-0246-FEDER-000044

Starting date: 2021 Ending date: 2023

Funding by: IPViseu (total fund: 131.050,00 €)

Main contractor: University of Coimbra

CQVR member role: António M. Jordão (participant)

Status: ***Ongoing project.***

4. oneHcancer - One health approach in animal cancer.

Reference: NORTE-01-0145-FEDER-000078.

Starting date: 2021 Ending date: 2023 Funding: 588.235,28€.

CQVR members role: Fernando M. Nunes (participant).

Status: ***Ongoing project.***

5. UTAD FOOD ALLIANZ: Infraestrutura de Investigação em Nutrição e Alimentação. A ligação com a Ciência Animal.

Reference: NORTE-01-0145-FEDER-072687.

Starting date: 2021 Ending date: 2023.

Funding: 2.588.234,87€.

CQVR members role: Fernando M. Nunes (participant), Fernanda Cosme (participant).

Status: ***Ongoing project.***

6. BagaConValor – Criação de valor no processo tecnológico de produção de sumo concentrado de baga de sabugueiro.

Reference: POCI-01-0247-FEDER-033558.

Starting date: 2018 Ending date: 2022.

Funding: 105.107,85€.

CQVR members role: Fernando M. Nunes, Fernanda Cosme.

Status: ***Finising project.***

7. cLabel+: Alimentos inovadores “clean label” naturais, nutritivos e orientados para o consumidor.

Reference: Nº: POCI-01-0247-FEDER-046080

Starting date: 2020 Ending date: 2023.

Funding: PROD - 232.082,27€

CQVR members role: Fernando M. Nunes (participant), Fernanda Cosme (participant).
Status: **Ongoing project.**

8. Forest4Future - Projeto piloto para a constituição de uma rede regional para a valorização da fileira da floresta da região centro.

Reference: CENTRO-08-5864-FSE-000031.

Starting date: 2021 Ending date: 2023.

Funding by: IPViseu (total fund: 120.015,91€).

Main contractor: CIM Viseu/Dão/Lafões.

CQVR member role: António M. Jordão (participant).

Status: **Ongoing project.**

9. Fungitech Tecnologia e Inovação na cadeia de produção do “shiitake” e de outros cogumelos com valor nutracêutico e medicinal.

Reference: NORTE-01-0247-FEDER-033788.

Starting date: 2018 Ending date: 2022.

Funding: 105.107,85€.

CQVR members role: Fernando M. Nunes (participant).

Status: **Finishing project.**

10. GO Preservar a qualidade na Carne Arouquesa.

Reference: PDR2020-1.0.1-FEADER-031094.

Starting date: 2017 Ending date: 2022.

Funding by: UTAD fund: 331.504,32€.

CQVR members role: Maria Manuel Oliveira (participant)

Status: **Finishing project.**

11. ValorCast - Valorização da castanha e otimização da sua comercialização.

Reference: PDR2020-1.0.1-FEADER-032036.

Starting date: 2018. Ending date: 2022.

Funding: PRODER - 68.760,38€.

CQVR members role: Fernando M. Nunes (participant), Alice Vilela (participant).

Status: **Finishing project.**

12. VITISHIDRI - Estratégias para a gestão do stress hídrico da vinha no Douro Superior.

Reference: PDR2020-1.0.1-FEADER-031486.

Starting date: 2017. Ending date: 2022.

Funding by: IPL (Total fund: 137.753,23€).

CQVR members role: Virgílio Falco (participant).

Status: **Finishing project.**

13. Vine & Wine Portugal – Driving Sustainable Growth Through Smart Innovation

Starting date: September 2022. Ending date: September 2025.

Funding by: PRR – Plano de Recuperação e Resiliência e pelos Fundos Europeus NextGeneration EU, no âmbito das Agendas Mobilizadoras para a Reindustrialização. Global fund: 41.427.004,64€. UTAD fund: 7.875.653,67€. Host institution: UTAD

CQVR members role: Marco S. Lucas, José A. Peres, Fernando Nunes, João Coutinho.

Status: **Starting project.**

II.5. Awards, Prizes and Medals

II.6. Outputs

II.6.1 Patents

- 1. Rupesh Kumar** Singh, Virgílio Falco, Ana Alexandra Oliveira. Patente N.º: 116211 'Processo para aumentar o teor de antocianinas e de polifenóis totais no vinho tinto'. UTAD.

II.6.2 Book chapters

1. Cosme, F., Vilela, A. (2022). Use of Chitin and Chitosan in the Beverage Industry. In: Prime Archives in Applied Sciences. Editors: Helen Henninger and Andrey Suzdaltsev, Hyderabad, India: Vide Leaf. ISBN: 978-93-92117-54-1 <https://videleaf.com/product/prime-archives-in-applied-sciences/>
2. Fernanda Cosme and Alice Vilela. Use of Chitin and Chitosan in the Beverage Industry. In: Prime Archives in Applied Sciences. Helen Henninger and Andrey Suzdaltsev Edts. Hyderabad, India: Vide Leaf. 2022. ISBN: 978-93-92117-54-1 <https://videleaf.com/product/prime-archives-in-applied-sciences/>

3. Filipe-Ribeiro, L., Cosme, F., Nunes, F. M. (2022). White wine protein instability: Origin, preventive, and removal strategies., IntechOpen, "Grapes and Wine" edited by Antonio Morata, Iris Loira, Carmen Gonzàlez DOI: 10.5772/intechopen.101713. Available from: <https://www.intechopen.com/online-first/79978>.
4. G. Silva, Daniela Mendes, M. Manuel Oliveira, Paula B. Andrade, Romeu A. Videira, and Francisco Peixoto. Mitochondria as a toxicological target for fungicides in: Mitochondrial Intoxication, Elsevier Science., Capítulo 23, páginas 493-526, 2022. Paperback ISBN: 9780323884624
5. Jordão A.M. (2022). Introductory chapter: New challenges and innovations in grape and wine production. *In: Recent Advances in Grapes and Wine Production - New Perspectives for Quality Improvement*. Editor A.M. Jordão, R.V. Botelho and U. Miljić. Intechopen Publisher. DOI: <http://dx.doi.org/10.5772/intechopen.109156>.
6. Otto T., Renato Botelho R., Biasi L., Miljić U., Correia A.C., Jordão A.M. (2022). Adaptability of different international grape varieties in diverse terroirs: impact on grape and wine composition. *In: Recent Advances in Grapes and Wine Production - New Perspectives for Quality Improvement*. Editor A.M. Jordão, R.V. Botelho and U. Miljić. Intechopen Publisher. DOI: 10.5772/intechopen.108204.

II.6.3 Publications in journals of Journal Citation Reports

II.6.3.1. Q1 and Q2 Journals

1. Cosme, F., Pinto, T., Aires, A., Morais, M.C., Bacelar, E., Anjos, R., Ferreira-Cardoso, J., Oliveira, I., Vilela, A., Gonçalves, B. Red Fruits Composition and Their Health Benefits—A Review. *Foods*, 2022, 11, 644 **Q1**
2. Correia, E.; Amorim, E.; Vilela, A. Structural Equation Modeling (SEM) and Temporal Dominance of Sensations (TDS) in the Evaluation of DOC Douro Red Wine's Sensory Profile. *Foods*, 2022, 11, 8, 1168. <https://doi.org/10.3390/foods11081168> **Q1**
3. Cosme, F.; Gomes, S.; Vilela, A.; Filipe-Ribeiro, L.; Nunes, F.M. Air-Depleted and Solvent-Impregnated Cork Powder as a New Natural and Sustainable Fining Agent for Removal of 2,4,6-Trichloroanisole (TCA) from Red Wines. *Molecules*, 2022, 27, 4614. <https://doi.org/10.3390/molecules27144614> **Q2**
4. Cosme F., Inês, A., Vilela, A. Consumer's acceptability and health consciousness of probiotic and prebiotic of non-dairy products, *Food Research International*, 2022, 151, 110842, <https://doi.org/10.1016/j.foodres.2021.110842> **Q1**
5. Mendes, D., Peixoto, F., Oliveira, M. M., Andrade, P. B., Videira, R.A. Brain Effects of SC-Nanophytosomes on a Rotenone-Induced Rat Model of Parkinson's Disease—A Proof of Concept for a Mitochondria-Targeted Therapy. *International Journal of Molecular Sciences*, 2022, Vol 23 (20), article number 12699. **Q2**
6. Gonçalves, A. C., Minute, F., Giotto, F., Filipe-Ribeiro, L., Cosme, F., Nunes, F.M. Is Pinking Susceptibility Index a Good Predictor of White Wines Pinking Phenomena? *Food Chemistry*, 2022, 360, 132861 **Q1**
7. Jordão, A. M., Cosme, F. (2022). The Application of Wood Species in Enology: Chemical Wood Composition and Effect on Wine Quality. *Applied Sciences*, 12(6):3179. **Q2**
8. Marques, C.; Correia, E.; Dinis, L.-T.; Vilela, A. 2022. An Overview of Sensory Characterization Techniques: From Classical Descriptive Analysis to the Emergence of Novel Profiling Methods. *Foods*, 11, 255. <https://doi.org/10.3390/foods11030255> **Q1**
9. Morata, T. Arroyo, M. A. Bañuelos, P. Blanco, A. Briones, J. M. Cantoral, D. Castrillo, G. Cordero-Bueso, J. M. del Fresno, C. Escott, R. Escribano-Viana, M. Fernández-González, S. Ferrer, M. García, C. González, A. R. Gutiérrez, I. Loira, M. Malfeito-Ferreira, A. Martínez, I. Pardo, M. Ramírez, M. Ruiz-Muñoz, P. Santamaría, J. A.

- Suárez-Lepe, A. Vilela & V. Capozzi (2022) Wine yeast selection in the Iberian Peninsula: Saccharomyces and non-Saccharomyces as drivers of innovation in Spanish and Portuguese wine industries, *Critical Reviews in Food Science and Nutrition*, DOI: 10.1080/10408398.2022.2083574 **Q1**
10. Oliveira, I.; Afonso, S.; Pinto, L.; Vieira, S.; Vilela, A.; Silva, A.P. 2022 Preliminary Evaluation of the Application of Algae-Based Biostimulants on Almond. *Plants*, 11, 3083. <https://doi.org/10.3390/plants11223083> **Q1**
 11. Mendes, D., Peixoto, F., Oliveira, M. M., Andrade, P. B., Videira, R. A. Mitochondria research and neurodegenerative diseases: On the track to understanding the biological world of high complexity. *Mitochondrion*, 2022, 65, 67-79, 2022. **Q2**
 12. Rondão, C. A. M., Mota, M. P., Oliveira, M. M., Peixoto, F., Esteves, D.. Multicomponent exercise program effects on fitness and cognitive function of elderlies with mild cognitive impairment: Involvement of oxidative stress and BDNF. *Frontiers in Aging Neuroscience*. 2022, 14 (25), article number 950937. **Q1**
 13. Ribeiro-Silva, C.M., Faustino-Rocha, A.I., Gil da Costa, R.M., Medeiros, R., Pires, M., Gaivão, I., Gama, A., Neuparth, M., Barbosa, J.V., Peixoto, F., Magalhães, F.D., Bastos, M.M.S.M., Oliveira, P.A. Pulegone and Eugenol Oral Supplementation in Laboratory Animals: Results from Acute and Chronic Studies. *Biomedicines*. Vol. 10 (10), 2022, article number 2595. **Q2**
 14. Rosária, M., Oliveira, M., Correia A.C., Jordão A.M. Impact of cross-flow and membrane plate filtrations under winery-scale conditions on phenolic composition, chromatic characteristics and sensory profile of different red wines. *Processes*, 2022, 10, 284. **Q2**
 15. Singh, R.K., Ruiz-May, E., Rajput, V.D., Minkina, T., Gómez-Peraza, R.L., Verma, K.K., Shekhawat, M.S., Pinto, C., Falco, V., Quiroz-Figueroa, F.R.. Viewpoint of Chitosan Application in Grapevine for Abiotic Stress/Disease Management towards More Resilient Viticulture Practices. *Agriculture* 2022, 12, 1369. <https://doi.org/10.3390/agriculture12091369> **Q1**
 16. Ribeiro, M., Ferreira, D., Siopa, J., Rodríguez-Quijano, M., Nunes, F.M. Natural Variation in the Content and Degree of Polymerization of Fructans in Wheat: Potential for Selection of Genotypes with Beneficial Health Composition. *Journal of Agricultural and Food Chemistry*, 2022, 70(35), 10929-10939. **Q1**
 17. Ribeiro, M., Sousa, M., Borges, V., Gomes, J. P., Duarte, S., Isidro, J., Vieira, L., Torres, C., Santos, H., Capelo, J. L., Poeta, P., & Igrejas, G. Bioinformatics study of expression from genomes of epidemiologically related MRSA CC398 isolates

from human and wild animal samples. *Journal of Proteomics*, 2022, 268, 104714.

Q2

18. Santos, M.J., Teresa, P., Vilela, A. Sweet Chestnut (*Castanea sativa* Mill.) Nutritional and Phenolic Composition Interactions with Chestnut Flavor Physiology *Foods*, 2022, 11, 4052. <https://doi.org/10.3390/foods11244052> **Q1**
19. Silva, M.G., Nunes, P., Oliveira, P., Ferreira, R., Fardilha, M., Moreira-Gonçalves, D., Duarte, J.A., Oliveira, M.M., Peixoto, F. Long-Term Aerobic Training Improves Mitochondrial and Antioxidant Function in the Liver of Wistar Rats Preventing Hepatic Age-Related Function Decline. *Biology*. Vol 11 (12), 2022, article number 1750. **Q2**
20. Silva-Reis, Rita, Castro-Ribeiro, Catarina, Gonçalves, Mariana, Ferreira, Tiago, Pires, Maria João, Iglesias-aguirre, Carlos E., Cortés-martín, Adrián, Selma, María V., Espín, Juan Carlos, Nascimento-gonçalves, Elisabete, Moreira-pais, Alexandra, Neuparth, Maria J., Peixoto, Francisco, Rosa, Eduardo, Gama, Adelina, Ferreira, Rita, Oliveira, Paula A., Faustino-rocha, Ana I. An Integrative Approach to Characterize the Early Phases of Dimethylhydrazine-Induced Colorectal Carcinogenesis in the Rat. *Biomedicines*. Vol 10 (2), 2022, article number 409. **Q2**
21. Vilela, A.; Cruz, I.; Oliveira, I.; Pinto, A.; Pinto, T. 2022. Sensory and Nutraceutical Properties of Infusions Prepared with Grape Pomace and Edible-Coated Dried–Minced Grapes. *Coatings*, 12, 443. <https://doi.org/10.3390/coatings12040443> **Q2**
22. Martins, S., Silva, E., Brito, C., Martins-Gomes, C., Gonçalves, A., Arrobas, M., Rodrigues, M.A., Correia, C.M., Nunes, F.M. Zeolites and Biochar modulate olive fruit and oil polyphenolic profile. *Antioxidants*, 2022, 11, 1332. **Q1**
23. Garcia, J., Rodrigues, F., Saavedra, M.J., Nunes, F.M., Marques, G. Bioactive polysaccharides from medicinal mushrooms: a review on their isolation, structural characteristics and antitumor activity. *Food Bioscience*, 2022, 49, 101955 **Q1**
24. Ferreira, S.S., Martins-Gomes, C., Nunes, F.M., Silva, A.M. Elderberry (*Sambucus nigra* L.) extracts promote anti-inflammatory and cellular antioxidant activity. *Food Chemistry X*, 2022, 15, 100437 **Q1**
25. Ferreira, S.S., Domingues, M.R., Barros, C., Santos, S.A.O., Silvestre, A.J.D., Silva, A.M., Nunes, F.M.. Major anthocyanins in elderberry effectively trap methylglyoxal and reduce cytotoxicity of methylglyoxal in HepG2 cell line. *Food Chemistry X*, 2022, 16, 100468 **Q1**

26. Portugal-Nunes, C., Cheng, L., Briote, M., Saraiva, C., Nunes, F.M., Gonçalves, C. Covid-19 Changes Public Awareness about Food Sustainability and Dietary Patterns: a Google Trends Analysis. *Nutrients*, 2022, 14, 4898 **Q1**
27. Martins-Gomes, C., Steck, J., Keller, J., Bunzel, M., Nunes, F.M., Silva, A.M. Molecular characterization of *Thymus capitellatus* extracts and their antioxidant, neuroprotective and anti-proliferative activities. *International Journal of Molecular Sciences*, 2022, 23, 15187 **Q2**
28. Antonietti, S., Silva, A.M., Simões, C., Almeida, D, Félix, L.M., Papetti, A., Nunes, F.M. Chemical composition and potential biological activity of melanoidins from instant soluble coffee and instant soluble barley: A comparative study. *Frontiers in Nutrition*, 2022, 9, 825584 **Q1**

II.6.3.1. Q3 and Q4 Journals

1. Pinto, T., Vilela, A., Cosme, F. (2022). Chemical and Sensory Characteristics of Fruit Juice and Fruit Fermented Beverages and Their Consumer Acceptance. *Beverages*, 8, 33.

II.6.5. Publications in proceedings

1. Cosme, F., Andrea-Silva, J., Filipe-Ribeiro, L., Nunes, F. M. Pinking phenomena in white wines produced from white grape varieties. XV Congresso Nacional de Investigación Enológica. Gienol 2022, Murcia 23 a 26 de maio de 2022. (proceeding e poster)
2. Cosme, F., Inês, A., Ferreira, B., Silva, D., Filipe-Ribeiro, L., Abrunhosa, L., Nunes, F. M. Bentonite fining to mitigate aflatoxins B1 and B2 from wine: Efficiency and effect on wine quality. XV Congresso Nacional de Investigación Enológica. Gienol 2022, Murcia 23 a 26 de maio de 2022. (proceeding e apresentação oral).
3. Filipe-Ribeiro, L., Cosme, F., Nunes, F. M. Optimised cork powder us new sustainable fining agent to remove negative volatile phenols. XV Congresso Nacional de Investigación Enológica. Gienol 2022, Murcia 23 a 26 de maio de 2022. (proceeding e poster)
4. Filipe-Ribeiro, L., Milheiro, J., Ferreira, L. C., Correia, E., Cosme, F., Nunes, F. M. Does Dekkera/Brettanomyces red wine spoilage increases the risk of biogenic amines intake by consumers? XV Congresso Nacional de Investigación Enológica. Gienol 2022, Murcia 23 a 26 de maio de 2022. (proceeding e apresentação oral).

5. Jordão A.M., Barrocco C., Gonçalves T. (2022). Contribution of wine tourism by the implementation of an urban vineyard in a Portuguese Historic Hotel: challenges, perspectives, and impacts. *Proceedings of 43th World Congress of Vine and Wine*. Ensenada, México. 31 outubro a 4 novembro.
6. Jordão A.M., Lourenço H., Brancaleone R., Correia A.C., Fracassetti D., Ricardo-Da-Silva J.M. (2022). Influence of grapevine age on general physicochemical and phenolic parameters of Rabigato white variety (results from three vintages). *Proceedings of 43th World Congress of Vine and Wine*. Ensenada, México. 31 outubro a 4 novembro.
7. M. J. Santos, E. Correia, G. Rijo and A. Vilela, "Saliva enzymes and in-mouth pH changes impact on the perception of alcoholic beverages flavor: A preliminary study for the development of an e-flavor," 2022 IEEE International Symposium on Olfaction and Electronic Nose (ISOEN), 2022, pp. 1-2, doi: 10.1109/ISOEN54820.2022.9789648.
8. M. J. Santos, E. Correia, G. Rijo and A. Vilela, "Saliva enzymes and in-mouth pH changes impact on the perception of alcoholic beverages flavor: A preliminary study for the development of an e-flavor," 2022 IEEE International Symposium on Olfaction and Electronic Nose (ISOEN), 2022, pp. 1-2, doi: 10.1109/ISOEN54820.2022.9789648.

II.6.6. Oral presentations

II.6.6.1 International meetings

1. A. Silva, V. Silva, R. Cordeiro, G. Igrejas, V. Falco, P. Valentão, P.Poeta, 2022. Antimicrobial resistance, virulence characteristics and phylogenetic diversity of *Escherichia coli* isolated from food-producing animals. 4th International Conference of the European College of Veterinary Microbiology, 15-17 September 2022, Bari, Italy. Book of Abstracts p.78-79.
2. Adriana Silva, Vanessa Silva, Alfredo Aires, Rosa Carvalho, Gilberto Igrejas, Virgílio Falco, Patrícia Valentão, Patrícia Poeta, 2022. The beginning of a post-antibiotic era: polyphenols extracted from white grapes by-products as antimicrobial agents. I Asturias International Meeting on Clinical Microbiology and Infectious Diseases, 22th-23th September 2022, Oviedo, Spain. Book of Abstracts p. 80.
3. Adriana Silva¹, Vanessa Silva, Rui Cordeiro, Gilberto Igrejas, Virgílio Falco, Patrícia Valentão, Patrícia Poeta, 2022. Study of the occurrence of multidrug-resistant strains in the different phases of swine breeding. Montenegro International Veterinary

Congress Imagiology Without Secrets, XVIII Medicine Congress. Conference Proceedings Book p. 155-157.

4. Barrocco, C., Gonçalves, T., Jordão, A.M. (2022). Implementação de uma vinha urbana numa unidade hoteleira como contributo para o desenvolvimento do Enoturismo nas cidades: O estudo do caso da Pousada Viseu Historic Hotel. TWINE Conference - Co-creating sustainable rural tourism experiences with food & wine, local culture, landscapes, and people. Aveiro, Portugal, 24-25 Fevereiro.
5. Cosme, F., Milheiro, J., Vilamarim, R., Filipe-Ribeiro, L., Nunes, F. M. New LLE method for quantification of trace amounts of sotolon by HPLC-DAD. 43rd OIV World Congress of Vine and Wine, Mexico 2022, Octubre 31 - Noviembre 4, México, Baja California
6. Cosme, F., Inês, A., Ferreira, B., Silva, D., Filipe-Ribeiro, L., Abrunhosa, L., Nunes, F. M. Food safety in wine: Aflatoxins removal through bentonite and impact on quality. 43rd OIV World Congress of Vine and Wine, Mexico 2022 Octubre 31 - Noviembre 4, México, Baja California
7. Filipe-Ribeiro, L., Cosme, F., Nunes, F. M. Molecularly imprinted polymers technology for reducing negative volatile phenols in red wine. 43rd OIV World Congress of Vine and Wine, Mexico 2022, Octubre 31 - Noviembre 4, México, Baja California
8. Filipe-Ribeiro, L., Milheiro, J., Ferreira, L.C., Correia, E., Cosme, F., Nunes, F. M. Impact of Dekkera/Brettanomyces red wine spoilage on red wine biogenic amines. 43rd OIV World Congress of Vine and Wine, Mexico 2022 Octubre 31 - Noviembre 4, México, Baja California
9. Jordão A.M., Barrocco C., Gonçalves T. (2022). Contribution of wine tourism by the implementation of an urban vineyard in a Portuguese Historic Hotel: challenges, perspectives, and impacts. Proceedings of 43th World Congress of Vine and Wine. Ensenada, México. 31 outubro a 4 novembro.
10. Jordão A.M., Lourenço H., Brancaleone R., Correia A.C., Fracassetti D., Ricardo-Da-Silva J.M. (2022). Influence of grapevine age on general physicochemical and phenolic parameters of Rabigato white variety (results from three vintages). Proceedings of 43th World Congress of Vine and Wine. Ensenada, México. 31 outubro a 4 novembro.

II.6.6.2. National meetings

1. Afonso, S.; Serapicos, M.; Oliveira, I.; Ribeiro, C.; Vilela, A.; Meyer, A.S.; Gonçalves, B. Quality traits and antioxidant activity of sweet cherries after biostimulants

- application, in Proceedings of the 1st International Online Conference on Agriculture - Advances in Agricultural Science and Technology, 10–25 February 2022, MDPI: Basel, Switzerland, doi:10.3390/IOAG2022-12248
2. Alice Vilela. Oral Presentation on “The duality between non-Saccharomyces and organic wines: Repercussions on human health”. 3rd Online International Conference on “Applied Microbiology and Beneficial Microbes”, held during April 11-12, 2022
 3. Fernanda Cosme, António Inês, Beatriz Ferreira, Davide Silva, Luís Filipe-Ribeiro, Luís Abrunhosa, Fernando M. Nunes. Food safety in wine: Aflatoxins removal through bentonite and impact on quality. 43rd World Congress of Vine and Wine October 31-November 4, 2022
 4. Marques, C., Correia, E., Dinis, L. T., Mota, J., Vilela, A. (2022). Quantitative descriptive analysis as an analytical tool for the sensory characterization of Wine Vinegar. Comunicação oral n. FCEM040, apresentada na International Web Conference on Food Choice & Eating Motivation, 19th & 20th may, 2022, promovida pelo IPV.
 5. Milheiro, J., Cosme, F., Filipe-Ribeiro, L., Nunes, F. M. Determination of selected carbonyl compounds in Port wines by reductive amination of aldehyde 2,4-dinitrophenylhydrazones using cyanoborohydride. 12º Encontro Nacional de Cromatografia, 6 a 8 de dezembro 2022, Aveiro, Portugal. (Resumo e comunicação oral)
 6. Ribeiro, M., Ferreira, D., Siopa, J., Rodríguez-Quijano, M., & Nunes, F. M. (2022). Is spelt wheat a superior source of fructans than common wheat? A multivarietal survey by high-performance anion-exchange chromatography. 12º Encontro Nacional de Cromatografia, Aveiro 6-8 December 2022.
 7. Siopa, J., Ribeiro, M., Cosme, F., Nunes, F. M. Use of shotgun proteomics for the assessment of the chemical composition of biscuits melanoidins. 12º Encontro Nacional de Cromatografia, 6 a 8 de dezembro 2022, Aveiro, Portugal. (Resumo e comunicação oral)

II.6.7. Poster presentations at national and international meetings

II.6.7.1. International meetings

1. Cosme, F., Milheiro, J., Ferreira, L.C., Filipe-Ribeiro, L., Nunes, F. M. Selective and sensitive quantification of wine biogenic amines using a dispersive solid-phase extraction clean-up/concentration method. In *Vino Analytica Scientia*, Analytical

- Chemistry for Wine, Brandy and Spirits, Neustadt 2022, 3-7 July 2022. (Resumo e poster)
2. Filipe-Ribeiro, L., Milheiro, J., Ferreira, L. C., Correia, E., Cosme, F., Nunes, M. F. Does Dekkera/Brettanomyces wine spoilage raise the risk of biogenic amines intake? A screening in portuguese red wines. In *Vino Analytica Scientia, Analytical Chemistry for Wine, Brandy and Spirits, Neustadt 2022, 3-7 July 2022*. (Resumo e poster)
 3. Jordão, A.M., Correia, A.C., Romão, A. (2022). General physicochemical and phenolic parameters of different grape varieties cultivated in Azores islands (results of the first year of study). Abstracts of 43th World Congress of Vine and Wine. Ensenada, México. 31 outubro a 4 novembro.
 4. Jordão, A.M., Correia, A.C., Santos, S., Denardi, L., Botelho, R.V., Ortega-Heras, M., González-SanJosé, M.L. (2022). Prospective of the enological use of different south American wood species: impact of short maceration on the phenolic parameters and sensory quality of a white wine. Abstracts of 43th World Congress of Vine and Wine. Ensenada, México. 31 outubro a 4 novembro.
 5. Martins, B., Jordão, A.M., Wessel, D., Teixeira-Lemos, E. (2022). Desenvolvimento de um suplemento alimentar com potencial efeito nas doenças neurodegenerativas: Estudos preliminares. Jornadas Técnicas sobre o Pinheiro Manso. Viseu, Portugal. 30 setembro.
 6. Maria João Santos, Teresa Pinto, Jorge Ferreira-Cardoso, Elisete Correia, Alice Vilela (2022). A castanha na gastronomia: Características sensoriais e químicas. Apresentação em painel (poster n.11). Apresentado no IV Simpósio da Castanha. Vila Real, Portugal. 7-9 Juno.
 7. Maria João Santos, Elisete Correia, Gonçalo Rijo, Alice Vilela (2022) Saliva Enzymes and In-Mouth pH Changes Impact on the Perception of Alcoholic Beverages Flavor: A Preliminary Study for the Development of an E-Flavor. Apresentação em painel (poster n. 8141). Apresentado no International Symposium on Olfaction and Electronic Nose (isoen), Aveiro, Portugal, May 29 - June 1.
 8. Maria João Santos, Teresa Pinto, Alice Vilela (2022) Chestnut processing influences chestnuts sensory profile and acceptability. Poster n. FCEM038 presented in the International Web Conference on Food Choice & Eating Motivation, 19th & 20th May, 2022, promovida pelo IPV.
 9. Moreira, J., Manuel, A.; Reis, S., Cosme, F., Nunes, F., Patarata, L. (2022). Behaviour of *Listeria monocytogenes* in restructured cooked ham with reduced nitrite. I International Congress on Animal and Veterinary Sciences "Under One Health Concept" (Resumo e poster)

10. Sousa, A., Nunes, F., Cosme, F., Patarata, L. Effect of wine and the main wine acids and ethanol on the behaviour of *Listeria monocytogenes* in a dry-cured meat product made with reduced nitrite. 68 th International Congress of meat Science and Technology ICoMST Kobe, Japan, August 22-25, 2022 (Resumo e poster)

II.7. Participation in National and International Organizations

II.7.1. Participation in Committees

1. International Scientific and Practical Conference “Modern Trends in Science, Innovative Technologies in Vineyards and Wine Making, Yalta (Russia) September 2022. Member of the Scientific Committee. António M. Jordão
2. Membro da Comissão científica do Congresso do 7th International Congress of Mountain and Steep Slopes Viticulture a realizar 12 a 14 de maio de 2022, na UTAD, Vila Real. Cosme F.
3. Membro da Comissão científica do 12º Encontro Nacional de Cromatografia 6-8 December, 2022, Universidade de Aveiro, Aveiro. Cosme F.
4. Membro do Conselho Cientifico do Club de Produtores do Continente Sonae MC – sector dos vinhos, de 2022. Cosme F.
5. Member of the Scientific Committe of the Mountain and Steep Slopes Viticulture. VII International Congress in Extreme Viticulture: from a cultural landscape to an economic and environmental sustainability, 12-14 May 2022, Vila Real (UTAD). Virgilio Falco
6. Scientific Committee Member of Enoforum Web Scientists. Cosme F.

II.7.2. Participation in decision-making bodies

1. António M. Jordão Science Fund of the Republic of Serbia. Application type: 1 Research Projects, Role: evaluator and co-coordinator, July and September, 2022.
2. António M. Jordão, Portuguese National Innovation Agency. Application type: 4 Research Projects, Role: evaluator and co-cordinator, OctoberNovember 2022.
3. Cosme F French National Research Agency (ANR) 2022 generic call. Evaluation process of the generic call for proposals 2022 (AAPG2022). For the evaluation panel CE21 – Alimentation et systèmes alimentaires.

II.7.3. Participation in editorial and special issues of international scientific journals

II.7.3.1. Associate Editor

1. Frontiers in Nutrition Journal - Nutrition and Food Science Technology. António M. Jordão
2. Frontiers in Nutrition – Section Food Chemistry, EPFL Science Park, Lausanne, Switzerland, Frontriers Associate Editor for Food Chemistry: Fernanda Cosme
3. Frontiers in Nutrition – Section Food Chemistry, EPFL Science Park, Lausanne, Switzerland, Frontriers Associate Editor for Food Chemistry: Fernanda Nunes

II.7.3.2. Editorial Board Member

1. António M. Jordão, Beverages, MDPI, Basel (Switzerland), Editorial Board Member.
2. António M. Jordão, Journal of Polyphenols, Instituto Nacional de Investigação Agrária (Portugal) e Shenyang Pharmaceutical University (China), Editorial Board Member,.
3. António M. Jordão, Ciência e Técnica Vitivinícola, Instituto Nacional de Investigação Agrária (Portugal), Editorial Board Member.
4. Fernanda Cosme. Membro do Comité Editorial da Beverages (ISSN 2306-5710) da editora MDPI Basel (Switzerland). Indexada ao Scopus (Elsevier) e Web of Science (Clarivate Analytics).
5. Fernanda Cosme. Membro do Comité Editorial da Foods da editora MDPI Basel (Switzerland). Indexada ao Scopus (Elsevier) e Web of Science (Clarivate Analytics).
6. Fernanda Cosme. Membro do Comité Editorial do Journal of Polyphenols, Instituto Nacional de Investigação Agrária (Portugal) e Shenyang Pharmaceutical University (China).

II.7.3.3. Section Board Member

1. Fernanda Cosme. Section board member da Beverages (ISSN 2306-5710) da editora MDPI Basel (Switzerland). “Section Board for 'Wine, Spirits and Oenological Products” 'Indexada ao Scopus (Elsevier) e Web of Science (Clarivate Analytics)
2. Fernanda Cosme. Section board member da Fermentation (ISSN 2306-5710) da editora MDPI Basel (Switzerland). Indexada ao Scopus (Elsevier) e Web of Science (Clarivate Analytics).

3. Fernanda Cosme. Section board member da Foods (ISSN 2306-5710) da editora MDPI Basel (Switzerland). Indexada ao Scopus (Elsevier) e Web of Science (Clarivate Analytics).
4. Fernando Nunes. Section board member da Foods (ISSN 2306-5710) da editora MDPI Basel (Switzerland). Indexada ao Scopus (Elsevier) e Web of Science (Clarivate Analytics).
5. Fernanda Nunes. Section board member da Molecules (ISSN 1420-3049) da editora MDPI Basel (Switzerland). Indexada ao Scopus (Elsevier) e Web of Science (Clarivate Analytics).

II.7.3.4. Colection Editor

1. António M. Jordão, Fernanda Cosme. Topical Collection "Wine and Beverage: Fermentation and Conservation Technologies" of Beverages Journal.

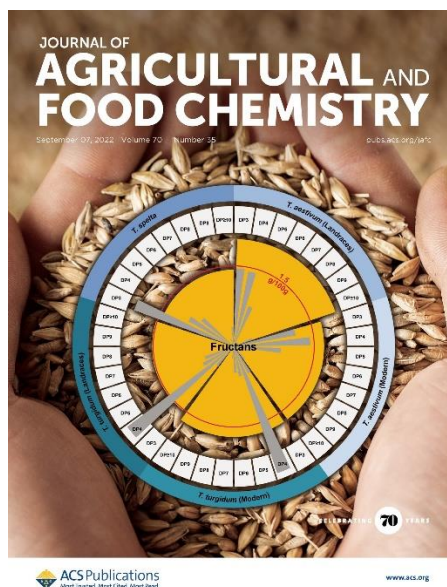
II.7.3.5. Special Issue Guest Editor

1. Fermentation, MDPI AG, Basel (Switzerland), Special Issue "Wine Fermentation and Aging - Evolution of Chemical and Sensory Profile", 2022, Guest Editors: Fernanda Cosme, Fernando M. Nunes, Luís Filipe-Ribeiro
2. Foods, MDPI AG, Basel (Switzerland), Special Issue "Winemaking: Advanced Technology and Flavor Research", 2021, Guest Editors: Cosme, F., Nunes, F.M., Filipe-Ribeiro, L
3. Molecules, MDPI AG, Basel (Switzerland), Special Issue " Second edition "Wine Sensory Faults: Origin, Prevention and Removal", 2022, Guest Editor: Fernando M. Nunes, Fernanda Cosme, Luís Filipe-Ribeiro

II.7.4. Book Editor

1. International Scientific and Practical Conference Modern Trends in Science, Innovative Technologies in Vineyards and Winemaking (2022). V. Likhovskoi, V. Volynkin, V. Novello, V. Kukhar, **A.M. Jordão**, Editores Científicos. BIO Web of Conferences 53, Edp Sciences, France, <https://doi.org/10.1051/bioconf/20225300001>.

COVER PAGE



Ribeiro, M.*, Ferreira, D., Siopa, J., Rodríguez-Quijano, M., Nunes, F.M.* Natural variation in the content and degree of polymerization of fructans in wheat: Potential for selection of genotypes with beneficial health composition. *Journal of Agricultural and Food Chemistry*, 2022, 70, 10929-10939. <https://doi.org/10.1021/acs.jafc.2c03686>

Part III – Material chemistry

III.1. Advanced Education

III.1.1. Postdoctoral students

Name **Daniela Maria da Silva Correia**

Supervisor Verónica de Zea Bermudez

Co-Supervisor Senentxu Lanceros Méndez

Name **João Filipe Figueiredo Rocha**

Supervisor Verónica de Zea Bermudez

Name **Alexandre José Alves Jerónimo**

Supervisor Mariana Sofia Peixoto Fernandes

Co-Supervisor Ana Cristina Briga de Sá

III.1.2. PhD students

Name **Abderrazzak Ait Bassou**

Supervisors Pedro Manuel Bandeira Tavares (UTAD); José Ramiro Fernandes (UTAD); Fábio Figueiras (IFIMUP/FCUP).

PhD Doutoramento em Ciências Físicas Aplicadas

Starting date 2019

Name **Andreia Daniela Rosa Veloso**

Supervisors Maria Cristina Fialho Oliveira

PhD Chemical and Biological Sciences, UTAD

Starting date October 2018

Name **Francisco Toscano Pessoa Kendall Ramos Pinheiro**

Supervisors Rosa Maria Magalhães Rego

PhD Chemical and Biological Sciences, UTAD

Starting date February 2021-January 2022 (end)

Name **João Carlos Pacheco Barbosa**

Supervisor Verónica de Zea Bermudez

Co-Supervisor Senentxu Lanceros Méndez and Carlos M. Costa

Name **Paulo Joaquim Ribeiro Nunes**

Supervisors Mariana Sofia Peixoto Fernandes/Verónica de Zea Bermudez

PhD Chemical and Biological Sciences, UTAD

Starting date March 2021

Name: **Lisete Sofia Gomes Fernandes**

Supervisors Pedro B. Tavares; Fernando Nunes

PhD Chemical and Biological Sciences

Starting date Out 2021

Name **Sara Barrias**

Supervisors Paula Martins Lopes (UTAD); Javier Ibañez (ICVV); José Ramiro Fernandes (UTAD).

PhD Doutoramento em Genética Molecular Comparativa

Starting date 2021

III.1.3. Collaborators

Name	Ana Rita Vitorino Queijo
Institution/Department	CQ-VR (degree in Biochemistry), grant of Obtain Project
Research area	Sensors
Name	Paula Lopes
Institution/Department	N/A
Research area	Biosensors
Name	Romeu António Videira
Institution/Department	N/A
Research area	Biochemistry
Name	Rui Campos
Institution/Department	N/A
Research area	Biosensors

III.1.4. Mater thesis concluded

Name	Claver Giovanni da Silveira Pinheiro
Title	Estabilização de solo sedimentar contaminado através de cimentos alcalinos aplicados com recurso à técnica de Deep Soil Mixing
PhD	Programa Doutoral em Engenharia Civil. Faculdade de Engenharia da Universidade do Porto.
Date	6 Setembro 2022
Supervisor	António Viana da Fonseca (FEUP)
Co-Supervisor	Nuno Cristelo (UTAD-CQVR)

Name	Catarina Lino
Title	Detection of Non-Small Cell Lung Cancer Using a DNA Based Biosensor
Master	Mestrado em Genética Molecular Comparativa e Tecnológica
Date	6 de abril de 2022
Supervisor	José Ramiro Fernandes
Co-Supervisor	Paula Martins-Lopes

Name	Norma Yolanda Gaibor Vaca
Title	Alkali activation of ceramic solid residue to incorporate in wall panels
PhD	Programa Doutoral em Gestão e Tratamento de Resíduos. Escola de Engenharia da Universidade do Minho
Date	21 Outubro 2022
Supervisor	Dinis Leitão (UMinho)
Co-Supervisor	Nuno Cristelo (UTAD-CQVR)

III.2. Short Training and Updating courses

1. Science Education- XV Update Course for School Teachers (Accreditation CCPFC/ACC-88844/) in University of Trás-os-Montes and Alto Douro- 5 Hours. 16July, 2022. Cristina Oliveira
2. Under the framework of ETEIA- Energy Transition Entrepreneurs in Action- Entrepreneurial Training” INNOVSTAF- Boost your start up idea!”, 20 hours, 11 October 2022- 25 November 2022, implemented by PCI-Creative Science Park Aveiro Region and UTAD.

III.3. Outreach activities

1. Webinar CQ-VR
 - Valorization of Agroforestry By-Products as Sustainable Building Materials. 23 March 2022. Ana Briga Sá.
 - LED-based devices - applications in Chemistry. 8 June 2022. José Ramiro.
2. Lab-tours CQ-VR
 - Laboratório de Materiais Sustentáveis. 23 February 2022. Ana Briga Sá.
3. Dispositivos electrocrómicos para edifícios energeticamente mais eficientes”Semana da sustentabilidade da UTAD, 20 de setembro 2022, Universidade de Trás-os-Montes e Alto Douro
4. XI Jornadas de Bioquímica “Workshop – How Nature can inspire the preparation of new materials” Oral convidada; demonstração da parte experimental, Local: UTAD, Vila Real, Portugal, 24 de maio de 2022. M. Fernandes, P.J. Nunes, V. de Zea Bermudez
5. “Fall Workshop on Energy Transition”, ETEIA, Vila Real, 22 September 2022. Verónica de Zea Bermudez, Rosa Rego
6. “Quem comanda a tua vida”, ETEIA, Vila Real, 23 September 2022. Rosa Rego, Verónica de Zea Bermudez
7. Energy Transition Entrepreneurs in Action (ETEiA): **WP4: Rosa Rego**: mentoring of students, non-staff and staff
8. Protocolo de colaboração entre a Universidade de Trás-os-Montes e Alto Douro - Escola de Ciências da Vida e do Ambiente e VMPS - Águas e Turismo, S.A., com sede em Pedras Salgadas, para a persecução do Plano de Estágio do aluno da Licenciatura em Bioquímica, Beatriz Costa Neto (2022); Rosa Rego
9. A Tabela Periódica como Ícone da Centralidade da Química (CCPFC/ACC-101645/18 e CCPFC/ACC-112361/21 - regime e-learning), 25 h, (1 crédito), Sociedade Portuguesa de Química. Formadoras: Ana Margarida Ferreira, Cristina Antunes, Rosa Rego. Três ações realizadas: 28/1/2022-05/03/2022 | 13/05/2022-18/06/2022 | 30/09/2022-05/11/2022

III.4. Projects

III.4.1. European/International

III.4.1.2. CQVR Partnership

1. HEI-ETEIA – Energy Transition Entrepreneurs in Action - developing a supportive academic environment for the young talents

Reference: Project Number 10036

Starting date: 2021-07-01. Ending date: 2023-07-31.

Funding by: EU (UTAD fund: 390.000,00€; Total fund: 1.200.000,00€)

CQVR members role: Ana Briga Sá (participant); Rosa Rego (participant), Mariana Fernandes (participant), Verónica Bermudez (participant), Maria Antunes (participant), Maria Cristina Oliveira (participant), Pedro Tavares (participant), José Ramiro Fernandes (participant).

Status: **Ongoing project**

2. CIRCULAR 2B- EEA Grants Portugal: Construção circular em edifícios modulares e energeticamente eficientes/ Circular construction in modular and energy efficient buildings.

Reference: Project n.º37.

Starting date: 2020-10-01. Ending date: 2022-09-30.

Funding by: EEA Grants (UTAD fund: 98.995,24 €; Total fund: 540.593,76 €).

CQVR members role: Nuno Cristelo (UTAD coordinator), Ana Briga Sá (participant), Pedro Tavares (participant), José Ramiro Fernandes (participant).

Status: **Ongoing project.**

3. DATI – Digital Agriculture Technologies for Irrigation efficiency.

Reference: PRIMA/0007/2020.

Starting date: 2021-06-01. Ending date: 2023-05-31.

Funding by: PRIMA (UTAD fund: 97.500,00€; Total fund: 1.020.180,00€).

CQVR members role: Ana Briga Sá (participant).

Status: **Ongoing project.**

4. MINECO - New Eco-Innovative Materials for Mining Infra.

Reference: ERA-MIN Joint Call 2018 – ID16.

Starting date: 2020. Ending date: 2023.

Funding by: EU (Total fund: 1.285.861 € / CQVR fund: 75.125€).

Main contractor. N/A Host institution: Tapojarvi, UTAD, UMinho.
CQVR members role: Nuno Cristelo, Pedro Tavares, Ramiro Fernandes.
Status: **Ongoing project**.

III.4.2. National

III.4.2.1. CQVR Leadership

1. **OBTain- Objective Building Sustainability**

Reference: NORTE-01-0145-FEDER-000084

Starting date: 2021-07-01. Ending date: 2023-06-30.

Funding by: FEDER (UTAD fund: 588.235,28 €; Total fund: 588.235,28 €)

CQVR members role: Verónica de Zea Bermudez (coordinator), Ana Briga Sá , Pedro Tavares, Fernando Pacheco; José Ramiro Fernandes, Marlo Lucas, Maria Cristina Gonçalves, Maria Cristina Oliveira, Maria Antunes, Mariana Fernandes, Nuno Cristelo, Rosa Rego.

Status: **Starting project**

2. **ADAPTIVE- Advanced Production System for Sustainable and Productive Roofing Retrofit.**

Reference: POCI-01-0247-FEDER-050191.

Starting date: 2020-10-01. Ending date: 2023-03-31.

Funding by: FEDER (UTAD fund: 131.145,27€; Total fund: 421.932,30€).

CQVR members role: Nuno Cristelo (UTAD coordinator), Ana Briga Sá (participant), Pedro Tavares (participant).

Status: **Ongoing project**

3. **Superhydrophobic films inspired in the surface of plant leaves and petals from Northern Portugal (PORPLANTSURF).**

Reference: POCI-01-0145-FEDER-029785.

Starting Date: october 2018. Ending date: march 2022.

Funding by Fundação Ciência e Tecnologia Financiamento global: 192.598,75€; Financiamento UTAD: 132.861,25€.

CQVR members role: M. C. Gonçalves (participant), M. Fernandes (participant), J. Rocha (participant), Verónica de Zea Bermudez (coordinator).

Status: **Concluded project**.

III.4.2.2. CQVR Partnership

1. E-FiELD - Distorções estruturais controladas por campo elétrico para dispositivos optoelectrónicos.

Reference: PTDC/NAN-MAT/0098/2020.

Starting date: 2021-03-29. Ending date: 2024-03-28.

Funding by: FCT (UTAD fund: 28 485.00€; Total fund: 249 967.50€).

Main contractor. IFIMUP Host institution: FCUP.

CQVR members role: Pedro B. Tavares, José Ramiro Fernandes, Lisete Fernandes.

Status: **Starting project.**

2. InvMat @ ISOLDE - Investigação em Materiais com Isótopos e Técnicas Nucleares Radioativas no ISOLDE-CERN.

Reference: CERN/FIS-TEC/0003/2019.

Starting date: 2021-01-01. Ending date: 2022-12-31.

Funding by: FCT (UTAD fund: 22 277.50€; Total fund:170 000€).

Main contractor. IST Host institution: IST.

CQVR members role: Pedro B. Tavares, José Ramiro Fernandes, Lisete Fernandes.

Status: **Starting project.**

3. Plataformas de Diagnóstico aplicadas às Doenças do Lenho em Videira.

Reference: PTDC/BAA-DIG/1079/2020.

Starting date: 29/03/2021.

Funding by: FCT: 249.996,78€ / UTAD: 144.499,80€.

CQVR members role: Paula Lopes (UTAD). Investigador Participante: José Ramiro Fernandes (CQVR/UTAD).

Status: **Starting project.**

4. Solar-Powered Smart Windows for Sustainable Buildings (SOLPOWINS).

Reference: PTDC/CTM/4304/2020.

Starting date: 29 march 2021. Ending date: 28 march 2024.

Funding by FCT (Global: € 249.285,88; UTAD: € 66.875,00).

CQVR members role: M. C. Gonçalves (participant), M. Fernandes (participant), Verónica de Zea Bermudez (coordinator).

Status: **Ongoing project.**

5. Continental FoF – Continental AA's Factory of the Future.

Reference: POCI-01-0247-FEDER-047512.

Starting date: 2020-10-01. Ending date: 2023-03-30.

Funding by: FEDER (UTAD fund: 1.084.304,44€; Total fund: 5.585.644,57€).

CQVR members role: Ana Briga Sá (participant).

Status: **Ongoing project.**

6. DEMOM - Engenharia de defeitos em filmes finos de niquelitas de terras raras para metamateriais óticos e magnéticos.

Reference: PTDC/NAN-MAT/28538/2017.

Starting date: 2018-07-01. Ending date: 2022-06-30.

Funding by: FCT and NORTE-01-0145-FEDER-028538 (UTAD: 34 086.72€; Total fund:239 444.89€).

Main contractor. IFIMUP. Host institution: FCUP.

CQVR members role: Pedro B. Tavares, José Ramiro Fernandes, Paulo Santos, Lisete Fernandes.

Status: **Ongoing project.**

7. RENEw – Construction waste for a circular economy.

Reference: 03/SI/2017 - Ref. Projeto nº 033834.

Starting date: 2020. Ending date: 2023.

Main contractor: Empresa DST S.A., UMinho, UTAD e associação CVR |Nuno Cristelo, Pedro Tavares.

Funding by: Global: 1.616.624€ / CQVR: 158.662€.

Status: **Ongoing project.**

8. Vine & Wine Portugal – Driving Sustainable Growth Through Smart Innovation

Starting date: September 2022. Ending date: September 2025.

Funding by: PRR – Plano de Recuperação e Resiliência e pelos Fundos Europeus NextGeneration EU, no âmbito das Agendas Mobilizadoras para a Reindustrialização. Global fund: 41.427.004,64€. UTAD fund: 7.875.653,67€). Host institution: UTAD

CQVR members role: Marco S. Lucas, José A. Peres, Fernando Nunes, João Coutinho.

Status: **Starting project.**

III.5. Outputs

III.5.1. Patents

Methods for producing a cement paste, a mortar, and a concrete construction material by utilising an aqueous 5 sericin solution and respective construction materials. PPP (Req 20222004157254) 03-11-2022. Ana Briga de Sá, Alexandre Jerónimo, Tiago Duarte, Bruna Loureiro, Rui Pereira, Verónica de Zea Bermudez

III.5.2. Publications in journals of Journal Citation Reports



III.5.2.1. Q1 and Q2 Journals

1. Briga-Sá, A., Gaibor, N., Magalhães, L., Pinto, T., Leitão, D. (2022). Thermal performance characterization of cement-based lightweight blocks incorporating textile waste. *Construction and Building Materials*, 321, 126330. <https://doi.org/10.1016/j.conbuildmat.2022.126330> **Q1**
2. Briga-Sá, A.; Silva, R.A.; Gaibor, N.; Neiva, V.; Leitão, D.; Miranda, T. (2022). Mechanical Characterization of Masonry Built with iCEBs of Granite Residual Soils with Cement–Lime Stabilization. *Buildings*, 12, 1419. <https://doi.org/10.3390/buildings12091419> **Q2**
3. Bruschi, G.J., Secco, M.P., Sousa, L., Briga-Sá, A., Cristelo, N. Development of facade panels with optimised thermal performance from alkali-activated stone-cutting waste *Environmental Earth Sciences*, 2022, 81 (12), 331, DOI: 10.1007/s12665-022-10452-3 **Q2**
4. Castro, F., Tavares, P.B., Cristelo, N., Teixeira, T., Garcia, J.F., Parreira, N.M.G. Characterization of Stainless Steel Spent Pickling Sludge and Prospects for Its Valorization (2022) *Metals*, 12 (9), art. no. 1539, DOI: 10.3390/met12091539 **Q2**
5. Corrêa-Silva, M., Cristelo, N., Rouainia, M., Araújo, N., Miranda, T. Constitutive Behaviour of a Clay Stabilised with Alkali-Activated Cement Based on Blast Furnace Slag (2022) *Sustainability* (Switzerland), 14 (21), art. no. 13736, DOI: 10.3390/su142113736 **Q2**
6. Consoli, N.C., Silvano, L.W., Lotero, A., Scheuermann Filho, H.C., Moncaleano, C.J., Cristelo, N. Key parameters establishing alkali activation effects on stabilized rammed earth (2022) *Construction and Building Materials*, 345, art. no. 128299, DOI: 10.1016/j.conbuildmat.2022.128299 **Q1**

7. Cristelo, N., Coelho, J., Rivera, J., Garcia-Lodeiro, I., Miranda, T., Fernández-Jiménez, A. Application of electric arc furnace slag as an alternative precursor to blast furnace slag in alkaline cements (2022) *Journal of Sustainable Cement-Based Materials*, DOI: 10.1080/21650373.2022.2161660 **Q1**
8. Lino, C., Barrias, S., Chaves, R., Adegas, F., Martins-Lopes, P., Fernandes, J.R. Biosensors as diagnostic tools in clinical applications. *Biochimica et Biophysica Acta (BBA) - Reviews on Cancer*, 2022, 1877, 3, 188726, 11 April 2022 (Available online 31 March 2022). DOI: 10.1016/j.bbcan.2022.188726 **Q1**
9. Castro, F., Tavares, P.B., Cristelo, N., Teixeira, T., Garcia, J.F., Parreira, N.M.G. Characterization of Stainless Steel Spent Pickling Sludge and Prospects for Its Valorization. *Metals*, 2022, 12, 1539. DOI: 10.3390/met12091539 **Q2**
10. Costa, J.R.C., Góis, J.R., Fernandes, J.R., Matyjaszewski, K., Coelho, J.F.J., Serra, A.C. Tosyl iodide—a new initiator for the photo-controlled iodine transfer polymerization of methacrylates under sunlight irradiation. *Polymer Chemistry*, 2022, 12, 7, 929-936. DOI: 10.1039/D1PY01356D **Q1**
11. Barbosa, J.C., Correia, D.M., Salado, M., Gonçalves, R., Ferdov, S., de Zea Bermudez, V., Costa, C.M., Lanceros-Mendez, S. Three-component solid polymer electrolytes based on Li-ion exchanged zeolites and ionic liquid for solid-state batteries. *Advanced Engineering Materials*, (2022). <https://doi.org/10.1002/adem.202200849> **Q2**
12. Crespo, N., Louzada, J., Fernandes, L.S., Tavares, P.B., Aranha, J. Microscopic Identification of Anatomical Elements and Chemical Analysis of Secondary Nests of *Vespa velutina nigrithorax* du Buyson. *Insects*, 2022, 13, 537. DOI: 10.3390/insects13060537 **Q1**
13. Cardoso, M.A., Correia, S.F.H., Gonçalves, H.M.R., Pereira, R.F.P., Pereira, S., Maria, T.M.R., Silva, M.M., Valente, A.J.M., Fortunato, E., Ferreira, R.A.S., de Zea Bermudez, V. Solar spectral management with electrochromic devices including PMMA films doped with biluminescent ionosilicas. *Journal of Sol-Gel Science & Technology*, 101(1) (2022) 58-70 - Topical Collection: Women in Sol-Gel. <https://doi.org/10.1007/s10971-021-05612-z> **Q1**
14. Secco, M.P., Bruschi, G.J., Vieira, C.S., Cristelo, N. Geomechanical Behaviour of Recycled Construction and Demolition Waste Submitted to Accelerated Wear (2022) *Sustainability (Switzerland)*, 14 (11), art. no. 6719, DOI: 10.3390/su14116719 **Q2**
15. Veloso, A. D.; Videira, R. A.; Oliveira, M. C. An Electrochemical Strategy for Synthesising Carbon-Based Nanomaterials with Tuned Redox Properties.

16. Machado, T.F., Santos, F.A., Pereira, R.F.P., de Zea Bermudez, V., Valente, A.J.M., Serra, M.E.S., Murtinho, D. β -Ketoenamine Covalent Organic Frameworks—Effects of Functionalization on Pollutant Adsorption. *Polymer*, 2022, 14(15), 3096. <https://doi.org/10.3390/polym14153096> Q1
17. Sabadini, R.C., Fernandes, M., de Zea Bermudez, V., Pawlicka, A., Silva, M.M. Eco-friendly superabsorbent hydrogels based on starch, gellan gum, citric acid, and nanoclays for soil humidity control. *Journal of Applied Polymer Science*, 2022, 139, 41, e52998 <https://doi.org/10.1002/app.52998> Q2
18. Pereira, R.F.P., Rocha, J., Nunes, P., Fernandes, T., Ravishankar, A., Cruz, R., Fernandes, M., Anand, S., Casal, S., de Zea Bermudez, V., Crespí, A.L. Vicariance between *Cercis siliquastrum* L. and *Ceratonia siliqua* L. unveiled by the physical-chemical properties of the leaves' epicuticular waxes. *Frontiers in Plant Science*, 2022, 13, 890647. <https://doi.org/10.3389/fpls.2022.890647> Q1
19. Nunes, S.C., Gomes, A.P., Nunes, P., Fernandes, M., Maia, A., Bacelar, E., Rocha, J., Cruz, R., Boatto, A., Ravishankar, A.P., Casal, S., Anand, S., de Zea Bermudez, V., Crespí, A.L. Leaf Surfaces and neolithization - The case of *Arundo donax* L. *Frontiers in Plant Science*, 2022, 13, 999252. <http://doi.org/10.3389/fpls.2022.999252> Q1

III.5.3.2. Q3 and Q4 Journals

1. Carretta, M.D.S., Cristelo, N., Festugato, L., Miguel, G.D., Consoli, N.C. Experimental assessment of the small-strain response of residual soil under monotonic and cyclic loading (2022) Proceedings of the Institution of Civil Engineers: Geotechnical Engineering, 175 (6), pp. 556-569. DOI: 10.1680/jgeen.20.00073 Q4
2. Miranda, T., Viana, A., Martins, F.F., Guo, X., Cristelo, N., Dias, D. Numerical analysis of a tunnel behaviour considering the spatial variability of the geotechnical parameters (2022) Proceedings of the Institution of Civil Engineers: Geotechnical Engineering. DOI: 10.1680/jgeen.22.00032 Q4
3. Rocha J, Almeida P, Ramírez-Rodríguez R, Sales F, Amich F, Crespí AL (2022) "Phenotypic strategies for *Jasione* L. or the challenge that taxonomy face to recent floristic responses along western Eurasia" Turkish Journal of Botany Q3
4. P. Nunes, R. P. F. Pereira, S. Pereira, M. M. Silva, E. Fortunato, V. de Zea Bermudez, M. Fernandes "Sol-gel derived di-ureasil based ormolytes for electrochromic devices" *Energies*, 16 (2022) 426. <https://doi.org/10.3390/en16010426> Q3

5. Castro I, Rocha J, Martins M, Carnide V, Martín JP, Veiga P, Serafim AB, Amich F, Ramírez-Rodríguez, R., Colombo, G., Crespí, A.L. The redundancy effect under morphogenetic and environmental fluctuations. The case of the *Dianthus pungens* group. *Plant Biosystems*, 2022, 156, 1, 292–306, **Q3**
6. K. Qin, R. F. P. Pereira, T. Coradin, V. de Zea Bermudez, F. Fernandes "Biomimetic silk macroporous materials for drug delivery obtained via ice templating" *ACS Applied Bio Materials*, 5(6) (2022) 5, 2556–2566. <https://doi.org/10.1021/acsabm.2c00020> **Q3**
7. N. Naffati, M. Fernandes, V. de Zea Bermudez, M. F. Nsib, Y. Arfaoui, A. Houas, J. L. Faria, C. G. Silva, M. M. Silva. "Chitosan-based electrolytes containing carbon nanotubes". *Iranian Polymer Journal*, 34 (2022) 1-12. <http://doi.org/10.1007/s13726-022-01069-1> **Q3**

III.5.3.3. New Journals (Impact factor pending)

1. Lisete Fernandes; José R. Fernandes; Pedro B. Tavares (2022) "Design of a Friendly Solar Food Dryer for Domestic Over-Production", *Solar*, doi: 10.3390/solar2040029
2. Manaviparast, H.R., Araújo, N., Cristelo, N., Miranda, T. Study on guardrail post behavior located on organic soil using simplified experimental and numerical methods (2022) *Soils and Rocks*, 45 (2), art. no. e2022077921, DOI: 10.28927/SR.2022.077921

III.5.4. Publications in proceedings

1. Ana Briga-Sá, Vinícius de Brito, Jorge Pinto. Estudo preliminar da incorporação de resíduos resultantes da produção de aguardente vínica em argamassas. Livro de Resumos do IV Simpósio de Argamassas e Soluções Térmicas de Revestimento. 10 e 11 Março 2022. ITECONS - COIMBRA. pp 33.
2. Ana Briga-Sá, Vinícius de Brito, Jorge Pinto (2022). Estudo experimental de argamassas cimentícias com incorporação de resíduos resultantes da produção de aguardente vínica. Congress TEST&E 2022 - 3rd Conference on Testing and Experimentation in Civil Engineering. Smart Technologies, 21-23 June 2022.
3. Ana Briga-Sá, Luís Fernandes, Anabela Paiva, José Boaventura-Cunha e António Valente (2022). Desenvolvimento de um sistema de automação para otimização do funcionamento da parede de Trombe. Congress TEST&E 2022 - 3rd Conference on Testing and Experimentation in Civil Engineering. Smart Technologies, 21-23 June 2022.

4. Ana Briga-Sá, José Teixeira, Alexandre Jerónimo, Mariana Fernandes, (2022). The influence of Olive Bagasse on the Heat of Hydration of Ordinary Portland Cement Pastes based on Infrared Thermography Analysis. ICEUBI2022 – “International Congress on Engineering – Innovation and Sustainability Praxis, 28-30 Novembro 2022, UBI, Covilhã.
5. Ana Briga-Sá, Christiano Fernandes, Tiago Pinto (2022). Feasibility of pine bark as an aggregate in lightweight cement-based building materials. ICEUBI2022 – “International Congress on Engineering – Innovation and Sustainability Praxis, 28-30 Novembro 2022, UBI, Covilhã.
6. Alexandre Jerónimo, Danyele Gonçalves, Isabelle Silva, Mariana Fernandes, Ana Briga-Sá (2022). Incorporação de resíduos agroflorestais em argamassas de cal: resultados preliminares. Congresso Construção 2022, 5-7 dezembro 22, Guimarães.
7. Alexandre Jerónimo, Danyele Gonçalves, Isabelle Silva, Mariana Fernandes, Ana Briga-Sá (2022). Incorporação de resíduos agroflorestais em argamassas de cal: resultados preliminares. Congresso Construção 2022, 5-7 dezembro 22, Guimarães.
8. Alexandre Jerónimo, Ana Briga-Sá, Verónica de Zea Bermudez, Sílvia Nunes, Mariana Fernandes (2022). Physico chemical characterization of olive oil production residues valorization as building materials. Congresso Construção 2022, 5-7 dezembro 22, Guimarães.
9. Alexandre Jerónimo, Mariana Fernandes, Ana Briga-Sá (2022). An experimental analysis on the thermal performance of particleboards using olive stone and almond shell wastes. Congresso Construção 2022, 5-7 dezembro 22, Guimarães.
10. Cristina Monteiro, Cristina Santos, Cristina Matos, Ana Briga-Sá (2022). Nature-based Solutions Contribution for Urban Resilience and Sustainability, ICEUBI2022 – “International Congress on Engineering – Innovation and Sustainability Praxis, 28-30 Novembro 2022, UBI, Covilhã.
11. A. Jerónimo, A. Briga-Sá, V. de Zea Bermudez, S. Nunes, M. Fernandes, “Physico chemical characterization of olive oil production residues valorization as building materials” Congresso Construção 2022, 5-7 December 2022, Guimarães, Portugal
12. Veloso, A.D., Andrade, P.B., Videira, R.A., Oliveira, M.C., “Assessment of enzymelike activity in metal-free nanomaterials”, Free Radical Biology and Medicine, 2022; 189 (Suppl. 1), 1–52. <https://doi.org/10.1016/j.freeradbiomed.2022.06.080>.
13. Veloso, A.D.; Videira, R. A.; Oliveira, M.C “Investigation on the ability of hydrophilic carbon nanomaterials to mimic antioxidant defense system enzymes”, FEBS Open Bio, 2022; 12 (Suppl. S1) 2–66. <https://doi.org/10.1002/2211-5463.13442>.

III.5.5. Oral presentations at national and international meetings

1. Ana Briga-Sá, Vinícius de Brito, Jorge Pinto. Estudo preliminar da incorporação de resíduos resultantes da produção de aguardente vínica em argamassas. Livro de Resumos do IV Simpósio de Argamassas e Soluções Térmicas de Revestimento. 10 e 11 Março 2022. ITECONS - COIMBRA. pp 33.
2. Ana Briga-Sá, Vinícius de Brito, Jorge Pinto (2022). Estudo experimental de argamassas cimentícias com incorporação de resíduos resultantes da produção de aguardente vínica. Congress TEST&E 2022 - 3rd Conference on Testing and Experimentation in Civil Engineering. Smart Technologies, 21-23 June 2022.
3. Ana Briga-Sá, Luís Fernandes, Anabela Paiva, José Boaventura-Cunha e António Valente (2022). Desenvolvimento de um sistema de automação para otimização do funcionamento da parede de Trombe. Congress TEST&E 2022 - 3rd Conference on Testing and Experimentation in Civil Engineering. Smart Technologies, 21-23 June 2022.
4. Ana Briga-Sá, José Teixeira, Alexandre Jerónimo, Mariana Fernandes, (2022). The influence of Olive Bagasse on the Heat of Hydration of Ordinary Portland Cement Pastes based on Infrared Thermography Analysis. ICEUBI2022 – “International Congress on Engineering – Innovation and Sustainability Praxis, 28-30 Novembro 2022, UBI, Covilhã.
5. Ana Briga-Sá, Christiano Fernandes, Tiago Pinto (2022). Feasibility of pine bark as an aggregate in lightweight cement-based building materials. ICEUBI2022 – “International Congress on Engineering – Innovation and Sustainability Praxis, 28-30 Novembro 2022, UBI, Covilhã.
6. Alexandre Jerónimo, Danyeale Gonçalves, Isabelle Silva, Mariana Fernandes, Ana Briga-Sá (2022). Incorporação de resíduos agroflorestais em argamassas de cal: resultados preliminares. Congresso Construção 2022, 5-7 dezembro 22, Guimarães.
7. Alexandre Jerónimo, Danyeale Gonçalves, Isabelle Silva, Mariana Fernandes, Ana Briga-Sá (2022). Incorporação de resíduos agroflorestais em argamassas de cal: resultados preliminares. Congresso Construção 2022, 5-7 dezembro 22, Guimarães.
8. Alexandre Jerónimo, Ana Briga-Sá, Verónica de Zea Bermudez, Sílvia Nunes, Mariana Fernandes (2022). Physico chemical characterization of olive oil production residues valorization as building materials. Congresso Construção 2022, 5-7 dezembro 22, Guimarães.

9. Alexandre Jerónimo, Mariana Fernandes, Ana Briga-Sá (2022). An experimental analysis on the thermal performance of particleboards using olive stone and almond shell wastes. Congresso Construção 2022, 5-7 dezembro 22, Guimarães.
10. A. Pinto, P. Nunes, J. Rocha, A. L. Crespí, V. de Zea Bermudez, M. Fernandes “Preparação de filmes bioinspirados na superfície das folhas de *Pieris Japonica*”, XIV Jornadas de Bioquímica, 24-25 maio 2022, Universidade de Trás-os-Montes e Alto Douro, Vila Real, Portugal.
11. A. Jerónimo, A. Briga-Sá, V. de Zea Bermudez, S. C. Nunes, M. Fernandes “Characterization of bio-wastes from the agricultural sector and corresponding incorporation as construction materials”, VI Jornadas de Engenharia Agronómica, 24 novembro 2022, Vila Real, Portugal
12. Bruna Silva, Alexandre Jerónimo, M. Fernandes, V. de Zea Bermudez, “Study of the wettability of films and cements/ceramic obtained by the replication of the surface of plant leaves” eHealth Summer School 2022, UTAD, 11-15 Julho 2022, Vila Real, Portugal
13. Bruna Loureiro, V. de Zea Bermudez, “Doping building materials with degumming waste-waters”, Alexandre Jerónimo and Tiago André Gomes Duarte, eHealth Summer School 2022, UTAD, 11-15 July 2022, Vila Real, Portugal
14. B. D. D. Cruz, D. M. Correia, P. Nunes, M. Fernandes, V. de Zea-Bermudez, G. Botelho, S. Lanceros-Méndez “Naturally-derived materials for photoluminescent applications”, VI Encontro de Técnicas de Caracterização e Análise Química (VI ETCAQ), 3 de junho 2022, Braga, Portugal
15. Cristina Monteiro, Cristina Santos, Cristina Matos, Ana Briga-Sá (2022). Nature-based Solutions Contribution for Urban Resilience and Sustainability, ICEUBI2022 – “International Congress on Engineering – Innovation and Sustainability Praxis, 28-30 Novembro 2022, UBI, Covilhã.
16. Bruna Loureiro, V. de Zea Bermudez “Doping building materials with degumming waste-waters”, eHealth Summer School 2022, UTAD, 11-15 July 2022, Vila Real, Portugal.
17. F. Ribeiro, P. J. Nunes, R. Cruz, J. Rocha, S. Casal, A. L. Crespí, V. de Zea Bermudez, M. Fernandes, “*Cinnamomum camphora* leaves as templates for the preparation of hydrophobic films”, Junior Euromat, 19-22 julho 2022, Coimbra, Portugal.
18. F. Ribeiro, P. Nunes, J. Rocha, A. L. Crespí, V. de Zea Bermudez, M. Fernandes “Biomimetics films with controlled wettability”, XIV Jornadas de Bioquímica, 24-25 maio 2022.

19. J. Teixeira, A. Jerónimo, M. Fernandes, A. Briga-Sá , “Caracterização física e química de misturas cimentícias com incorporação de resíduos e subprodutos agroflorestais para produção de materiais de construção sustentáveis”, XIV Jornadas de Bioquímica, UTAD, 24- 25 maio, Vila Real, Portugal.
20. P. J. Nunes, R.F.P. Pereira, M. M. Silva, V. de Zea Bermudez, M. Fernandes “Incorporation of a lithium salt and an ionic liquid into a co-condensed d-U(600)/d-U(900) hybrid matrix”, Sol-Gel 2022, Lyon, França 24-29 julho 2022.
21. P. J. Nunes, A. Pinto, R. Rua, V. de Zea Bermudez, M. Fernandes, “Study of the wettability of films obtained by the replication of the surface of plant”, Junior Euromat, 19-22 julho 2022, Coimbra, Portugal.
22. P.J. Nunes, R.P.F. Pereira, S. Pereira, M. M. Silva, E. Fortunato, V. de Zea Bermudez, M. Fernandes “Sol-gel derived di-ureasil based ormolytes for electrochromic devices”, , JuniorEuromat, Junior EuroMat 2022, 19-22 July 2022, Coimbra, Portugal
23. P.J. Nunes, V. de Zea Bermudez, M. Fernandes, “Synthesis and characterization of organic/inorganic hybrids doped with ionic liquids”, XIV Jornadas de Bioquímica, 24 May de 2022, Universidade de Tras-os-Montes e Alto Douro, Vila Real, Portugal.
24. M. Fernandes, V. de Zea Bermudez “Study of the wettability of films and cements/ceramic obtained by the replication of the surface of plant leaves”, Bruna Silva, Alexandre Jerónimo, eHealth Summer School 2022, UTAD, 11-15 July 2022, Vila Real, Portugal
25. Mafalda Loureiro, Alexandre Jerónimo, M. Fernandes and Ana Briga-Sá “Nanotechnology approach to assess antifungal properties of building materials: The feasibility of Prunus Dulcis almond shell powder using a particle dispersion technique”eHealth Summer School 2022, UTAD, 11-15 Julho 2022, Vila Real, Portugal
26. Bruna Silva, Alexandre Jerónimo, M. Fernandes, V. de Zea Bermudez Study of the wettability of films and cements/ceramic obtained by the replication of the surface of plant leaves”, eHealth Summer School 2022, UTAD, 11-15 July 2022, Vila Real, Portugal.
27. Mafalda Loureiro, Alexandre Jerónimo, M. Fernandes and Ana Briga-Sá “Nanotechnology approach to assess antifungal properties of building materials: The feasibility of Prunus Dulcis almond shell powder using a particle dispersion technique”, eHealth Summer School 2022, UTAD, 11-15 July 2022, Vila Real, Portugal.

28. Veloso, A.D., Andrade, P.B., Videira, R.A., Oliveira, M.C., "Assessment of enzymelike activity in metal-free nanomaterials", REDOX BIOLOGY CONGRESS 2022, August 26, 2022, Ghent, Belgium.
29. Veloso, A.D., Videira, R.A., Oliveira, M.C., "Investigation on the ability of hydrophilic carbon nanomaterials to mimic antioxidant defense system enzymes", 46th FEBS Congress held with 25th IUBMB Congress and 15th PABMB Congress as "The Biochemistry Global Summit", July 13, 2022, Lisboa, Portugal.
30. Veloso, A.D., Videira, R.A., Oliveira, M.C., "Assessment of hydrophilic carbon nanomaterials as antioxidant enzymes mimics", CQ-VR Day, July 8, 2022, Vila Real, Portugal.
31. V. de Zea Bermudez, "Solar energy harvesting, conversion and management materials for architectural glazing", RICI IX - Iberian Meeting on Colloids and Interfaces, Santiago de Compostela, Spain, 10-13 July 2022, Plenary Talk
32. V. de Zea Bermudez, "Solar-Powered Windows for Energy-Efficient Buildings", Online Workshop Advanced Materials and Methodologies in Circular Construction, March 4, FEUP; Porto, Portugal, 2022, Invited Talk

III.5.6. Poster presentations at national and international meetings

III.5.6.1. International meetings

1. A.A. Bassou, J. R. Fernandes, F.G. Figueiras, P. B. Tavares (2022) "OPTICAL BAND GAP OF h-LuFeO₃ THIN FILMS DEPOSITED BY MOCVD" 3rd Condensed Matter Physics National Conference, 28th February-2nd March, Faculdade de Ciências, Universidade de Lisboa, p.56
2. M. M. Gomes, T. T. Carvalho, B. Manjunath, R. Vilarinho, A. S. Gibbs, K. S. Knight, J. A. Paixao, P. B. Tavares, A. Almeida, J. Agostinho Moreira (2022) "DISENTANGLING THE PHASE SEQUENCE AND CORRELATED CRITICAL PROPERTIES IN B_{0.7}La_{0.3}FeO₃ BY STRUCTURAL STUDIES", 3rd Condensed Matter Physics National Conference, 28th February-2nd March, Faculdade de Ciências, Universidade de Lisboa, p.59.
3. Ribeiro F, Nunes P, Cruz R, Rocha J, Casal S, Crespi AL, Bermudez V, Fernandes M "Cinnamomum camphora leaves as templates for the preparation of hydrophobic films" Junior EuroMat 2022 (19-22 Julho 2022, Coimbra, Portugal)

III.5.6.2. National meetings

1. A. Pinto, P. Nunes, J. Rocha, A. L. Crespí, V. de Zea Bermudez, M. Fernandes, “Preparação de filmes bioinspirados na superfície das folhas de *Pieris Japonica*”, XIV Jornadas de Bioquímica, 24-25 MaY 2022, Universidade de Trás-os-Montes e Alto Douro, Vila Real, Portugal.
2. A. Jerónimo, A. Briga-Sá, V. de Zea Bermudez, S. C. Nunes, M. Fernandes “Characterization of bio-wastes from the agricultural sector and corresponding incorporation as construction materials”, , VI Jornadas de Engenharia Agronómica, 24 November 2022, Vila Real, Portugal
3. Alexandre Jerónimo, Ana Briga-Sá, Verónica de Zea Bermudez, Sílvia Nunes, Mariana Fernandes (2022). Characterization of bio-wastes from the agricultural sector and corresponding incorporation as building construction materials. VI Jornadas de Engenharia Agronómica, UTAD, Vila Real.
4. B. D. D. Cruz, D. M. Correia, P. Nunes, M. Fernandes, V. de Zea-Bermudez, G. Botelho, S. Lanceros-Méndez “Naturally-derived materials for photoluminescent applications”, , VI Encontro de Técnicas de Caracterização e Análise Química (VI ETCAQ), 3 de junho 2022, Braga, Portugal
5. Bruna Silva, Alexandre Jerónimo, M. Fernandes, V. de Zea Bermudez “Study of the wettability of films and cements/ceramic obtained by the replication of the surface of plant leaves”, , eHealth Summer School 2022, UTAD, 11-15 July 2022, Vila Real, Portugal
6. Francisca Ribeiro, Paulo J. Nunes, R. Cruz, João Rocha, Susana Casal, António L. Crespi, Verónica de Zea Bermudez, M. Fernandes “Cinnamomum camphora leaves as templates for the preparation of hydrophobic films”, , Junior Euromat, 19-22 July 2022, Coimbra, Portugal.
7. F. Ribeiro, P. Nunes, J. Rocha, A. L. Crespí, V. de Zea Bermudez, M. Fernandes, “Biomimetics films with controlled wettability”, XIV Jornadas de Bioquímica, 24-25 May 2022
8. J. Teixeira, A. Jerónimo, M. Fernandes, A. Briga-Sá (2022) Caracterização física e química de misturas cimentícias com incorporação de bagaço de azeitona. XIV Jornadas de Bioquímica, 24 e 25 maio 2022, UTAD, Vila Real.
9. Mafalda Loureiro, Alexandre Jerónimo, M. Fernandes and Ana Briga-Sá, “Nanotechnology approach to assess antifungal properties of building materials: The feasibility of *Prunus Dulcis* almond shell powder using a particle dispersion technique”, eHealth Sumer School 2022, UTAD, 11-15 July 2022, Vila Real, Portugal

10. Pinto A, Nunes P, Rocha J, Crespí AL, de Zea Bermudez V, Fernandes M
“Preparação de filmes bioinspirados na superfície das folhas de *Pieris japonica*” XIV Jornadas de Bioquímica. (24-25 Maio – 2022, Vila Real, Portugal)
11. Ribeiro F, Nunes P, Rocha J, Crespí AL, de Zea Bermudez V, Fernandes M
“Biomimetics films with controlled wettability” XIV Jornadas de Bioquímica. (24-25 Maio – 2022, Vila Real, Portugal)
12. V. de Zea Bermudez, Alexandre Jerónimo and Tiago André Gomes Duarte
“Doping building materials with degumming waste-waters”, Bruna Loureiro, eHealth Sumer School 2022, UTAD, 11-15 July 2022, Vila Real, Portugal
13. P. J. Nunes, R.F.P. Pereira, M. M. Silva, V. de Zea Bermudez, M. Fernandes
“Incorporation of a lithium salt and an ionic liquid into a co-condensed d-U(600)/d-U(900) hybrid matrix”, Sol-Gel 2022, Lyon, França, 24-29 July 2022.
14. Paulo J. Nunes, André Pinto, Ricardo Rua, Verónica de Zea Bermudez, Mariana Fernandes
“Study of the wettability of films obtained by the replication of the surface of plant”, Junior Euromat, 19-22 July 2022 de Julho 2022, Coimbra, Portugal.

III.6. Participation in National and International Organizations

III.6.1. Participation in Committees

1. Membro da comissão do congresso 8th Portuguese Young Chemistry Meeting <https://8pychem.events.chemistry.pt/>, Universidade de Trás-os-Montes e Alto Douro; a realizar entre 17-19 de maio de 2023
2. Membro da comissão organizadora e científica do congresso, I International Meeting Molecules4LIFE, 20-22 September 2023, Vila Real, Portugal
3. Rocha J. “II Jornadas de Estudo e Proteção do Ambiente” – Comissão Científica. (2-4 Março-2022, UTAD, Vila Real)

III.6.2. Participation in decision-making bodies

Evaluation of International Projects:

1. Mariana Fernandes, Agência Nacional de Inovação. Avaliação de 1 (um) Projeto. SIFIDE, october 2022
2. V. de Zea Bermudez. Call "Appel Bourses & Mandats 2022" F.R.S.-FNRS, Research Project for Qualified Researcher, Individual On-line Evaluation of 1 (one) project.

3. V. de Zea Bermudez. Call "Appel Bourses & Mandats 2022" F.R.S.-FNRS, Research Project for Research Director, Individual On-line Evaluation of 1 (one) project.
4. V. de Zea Bermudez. EuroTechPostdoc2 Programme Marie-Curie fellowships within the EuroTech Universities Alliance 2022, Individual On-line Evaluation of 4 (four) proposals.

Assessment of undergraduate, master's and doctoral courses (A3ES):

5. V. de Zea Bermudez. A3ES, Evaluation of BSc Technological Chemistry FCUL Course. January-March 2022.
6. V. de Zea Bermudez. A3ES, Evaluation of MSc Technological Chemistry FCUL Course. January-March 2022.

Assessment of Final Reports of Research Units:

7. V. de Zea Bermudez. Fundação para a Ciência e Tecnologia, Evaluation of IC&DT 2019-2022 Projects Final Reports of the Panels of Exact Sciences and Engineering & Technologies. Sub-areas: Materials Engineering (11), and Chemistry (3).

Evaluation of Doctoral Scholarships (FCT):

8. V. de Zea Bermudez. Co-Coordenadora e Membro do Painel de Avaliação de Bolsas Individuais de Doutoramento-2022, para a área de Engenharia de Materiais e Nanotecnologias, concurso da FCT. Reuniões por videoconferência: junho e julho 2020 (20 bolsas de doutoramento avaliadas, 10 como 1ª leitora e 10 como 2ª leitora).

III.6.3. Participation in editorial and special issues of international scientific journals

III.6.3.1. Associate Editor

1. Associate Editor da revista Soils & Rocks [indexada na base Scopus], publicada pela SPG Sociedade Portuguesa de Geotecnia e pela ABMS – Associação Brasileira de Mecânica dos Solos, desde 2020.
2. Catalyst, Academic Editor, Pedro B. Tavares

3. *Frontiers in Environmental Science - Section Land Use Dynamics: Urban Nature-Based Solutions and Green Infrastructure as Strategies for Climate Change Adaptation*, Topic Editor: Ana Briga Sá

III.6.3.2. Review Editor

1. *Frontiers in Environmental Chemistry*, Review Editor for the Chemical Treatments section of *Frontiers in Environmental Chemistry*. Pedro B. Tavares

III.6.3.3. Editorial Board Member

1. *Eclética Química*, Fundação Editora da Universidade Estadual Paulista Júlio de Mesquita Filho – UNESP (Brazil). Member of the Editorial Board: V. de Zea Bermudez.
2. *Frontiers in Materials – Section Energy Materials*, EPFL Science Park, Lausanne, Switzerland, Associate Editor: V. de Zea Bermudez
3. *Frontiers in Chemistry – Section Inorganic Chemistry*, EPFL Science Park, Lausanne, Switzerland. Review Editor: V. de Zea Bermudez.
4. *Frontiers in Energy Research – Section Electrochemical Energy Conversion and Storage*, EPFL Science Park, Lausanne, Switzerland. Review Editor: V. de Zea Bermudez
5. Membro do Editorial Board da revista *Journal of Materials in Civil Engineering* [Journal Citation Report Q2], publicada pela ASCE – American Society of Civil Engineers, desde 2019.
6. Membro do Editorial Board da revista *Journal of Composites Science* [Scopus e Emerging Sources Citation Index], publicada pela MDPI, desde 2020.
7. *Molecules*, MDPI AG, Basel (Switzerland). Member of the Editorial Board: V. de Zea Bermudez.
8. *Journal of Sol-Gel Science and Technology*, Springer. Member of the Editorial Board: V. de Zea Bermudez.

III.6.3.4. Special Issue Guest Editor

9. "Emerging Topics in Future Energy Materials", Special Issue; Rosa Rego
10. *Frontiers in Materials – Section Smart Materials*, EPFL Science Park, Lausanne, Switzerland, Guest Associate Editor: V. de Zea Bermudez

11. Frontiers in Materials – Section Ceramics and Glass, EPFL Science Park, Lausanne, Switzerland, Guest Associate Editor: V. de Zea Bermudez
12. Materials, MDPI AG, Basel (Switzerland), Special Issue " Special Issue " Recent Progress of Materials for Smart windows", Guest Editor M. Fernandes, V. de Zea Bermudez
13. Recent Progress of Materials for Smart windows; Materials, MDPI, Special Issue; Mariana Fernandes, Verónica de Zea Bermudez
14. Sustainability, MDPI AG, Basel (Switzerland), Special Issue "For Sustainable Development: The Differences in Water and Energy Consumptions in Urban and Rural Environments", Guest-Editor: Ana Briga-Sá

III.6.3.5. Participation in juries of aggregation

1. Helena Maria Vieira Monteiro Soares, FEUP, 03 and 04 march 2022, Vogal: Verónica de Zea Bermudez
2. José Pedro Arieiro Gonçalves Bezerra, UTAD, 07 and 08 february 2022. Presidente do júri. Verónica de Zea Bermudez

III.6.3.6. Participation in doctoral juries

1. Mahboobeh Attaei, IST, "Development of Self-Healing Coatings for Corrosion Protection of Carbon Steel", 26 october 2022, Arguente principal: Verónica de Zea Bermudez
2. Ranielle de Oliveira Silva Borges, "Desenvolvimento de Materiais híbridos orgânicos-inorgânicos siloxano-PEO-PLA para Liberação prolongada do fármaco penicilina G sódica", Universidade Federal de Rio de Janeiro, Rio de Janeiro, Brasil, 01 april 2022. Arguente principal: Verónica de Zea Bermudez
3. Zélia Ribeiro Alves, "Polysaccharide-based nanocomposites for active food packaging", 21 january 2022. Arguente principal: Verónica de Zea Bermudez
4. Vanessa Cristina Diniz da Graça, "Tailoring protonic ceramic materials for electrochemical ammonia synthesis", UA, 21 december 2022. Vogal: Verónica de Zea Bermudez
5. Kashif Mushtaq, "Energy storage: development of non-aqueous redox flow and liquid metal batteries", FEUP, 26 may 2022. Vogal: Verónica de Zea Bermudez

III.6.3.7. Juries of documentary evidence (extra UTAD)

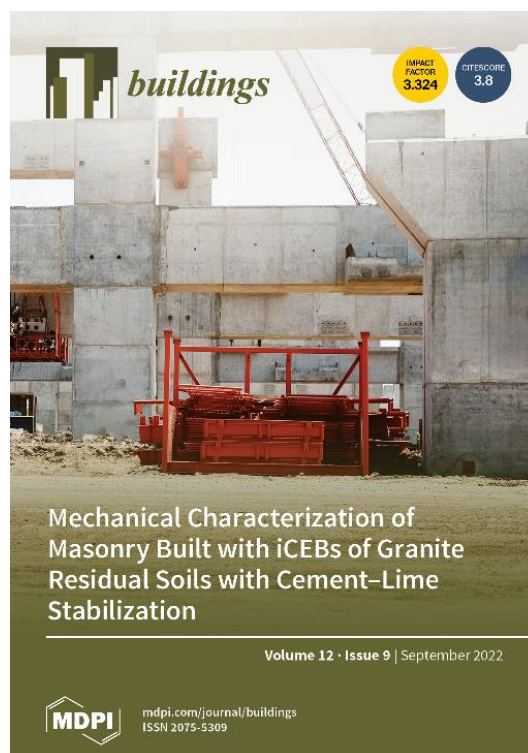
1. Concurso de Professor Catedrático, Química Física, Materiais e Nanociências, IST, 20 dezembro 2022, Membro do Júri: Verónica de Zea Bermudez
2. Concurso de Professor Associado, Química Física e Química Analítica do Departamento de Química da Escola de Ciências, da UM, 02 december 2022, Membro do Júri: Verónica de Zea Bermudez
3. Concurso de Professor Associado, Química, Faculdade de Ciências e Tecnologia, UC, 11 november 2022, Membro do Júri: Verónica de Zea Bermudez
4. Concurso de Professor Associado, Engenharia Química, Faculdade de Ciências e Tecnologia, UC, 25 october 2022, Membro do Júri: Verónica de Zea Bermudez
5. Concurso de Professor Associado, Química, Faculdade de Ciências e Tecnologia, UC, 30 september 2022, Membro do Júri: Verónica de Zea Bermudez
6. Concurso de Professor Auxiliar, Ciências dos Materiais, Sistemas de Gravação Eletrónica, Memórias e Análise Estrutural de Nanomateriais, UNL, 09 december 2022, Membro do Júri: Verónica de Zea Bermudez
7. Concurso para Investigador Coordenador, Departamento de Engenharia e Ciências Nucleares Ciências Químicas e Radiofarmacêuticas, IST, 06 dezembro 2022, Membro do Júri: Verónica de Zea Bermudez
8. Concurso Investigador Principal, Ciências dos Materiais, Nanomateriais e Nanotecnologias, UNL, 07 december 2022, Membro do Júri: Verónica de Zea Bermudez
9. Concurso Investigador Principal, Física Tecnológica, LNEC, 20 november 2022, Membro do Júri: Verónica de Zea Bermudez
10. Concurso Investigador Principal, Ciências da Engenharia e Tecnologias, Engenharia dos Materiais, UNL, 10 october 2022, Membro do Júri: Verónica de Zea Bermudez
11. Concurso Investigador Principal, Química, UA, 29 september 2022, Membro do Júri: Verónica de Zea Bermudez
12. Concurso Investigador Auxiliar, Ciências dos Materiais, Nanomateriais e Nanotecnologias, UNL, 16 december 2022, Membro do Júri: Verónica de Zea Bermudez
13. Concurso Investigador Auxiliar, Departamento de Engenharia e Ciências Nucleares Ciências Químicas e Radiofarmacêuticas, IST, 06 december 2022, Membro do Júri: Verónica de Zea Bermudez

III.6.3.8. Other juries

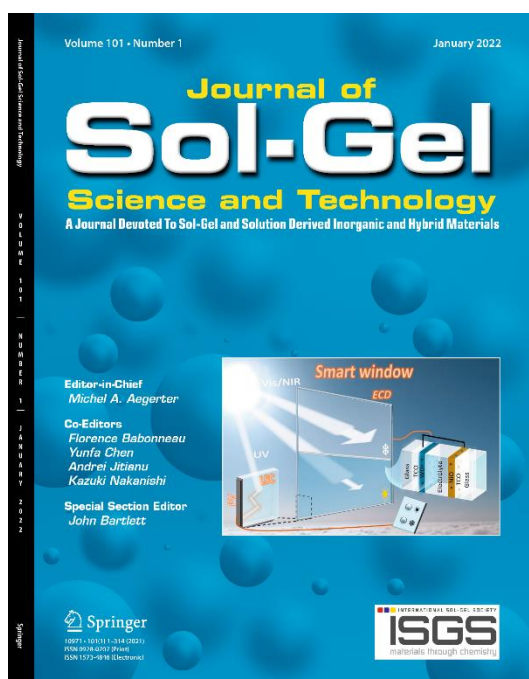
1. José Miguel Morais Teixeira, Projecto de Licenciatura em Bioquímica, “Caracterização física e química de misturas cimentícias com incorporação de resíduos e subprodutos agroflorestais para produção de materiais de construção sustentáveis”, 18 July 2022. Arguente: Verónica de Zea Bermudez
2. Mariana Fernandes, Projeto da licenciatura em Bioquímica aluna Silvia Catarina Rodrigues Almeida – Universidade da Beira Interior; 14 June 2021, online
3. Mariana Fernandes, Provas de aptidão profissional da aluna Francisca Ribeiro, 19 July 2021, Colégio de São Gonçalo Amarante- online

COVER PAGE

Buildings “Mechanical Characterization of Masonry Built with iCEBs of Granite Residual Soils with Cement–Lime Stabilization”, Volume 12-Issue 9, September 2022, MDPI; ISSN 2075-5309



M. A. Cardoso, S. F. H. Correia, H. M. R. Gonçalves, R. F. P. Pereira, S. Pereira, T. M. R. Maria, M. M. Silva, A. J. M. Valente, E. Fortunato, R. A. S. Ferreira, **V. de Zea Bermudez**, *Journal of Sol-Gel Science and Technology*, 101 (1) (2022) 58-70



Part IV - Organic chemistry

IV.1. Advanced Education

IV.1.1. Postdoctoral students

Name	Vânia Graça
Supervisor	Paulo Coelho

IV.1.2. PhD students

Name	Vanessa Sofia Dias Gomes
Supervisor	Lucinda Vaz dos Reis
Co-Supervisor	Maria do Sameiro Torres Gonçalves, Miguel Correa-Duarte
PhD	Physical and Analytical Chemistry, Escola de Ciências da Universidade do Minho

Starting date

Name	Diogo Alexandre Cartaxo Sousa
Supervisor	José Virgílio de Sousa Coelho Prata (ISEL/IPL/CQ-VR)
Co-Supervisor	Mário Nuno de Matos Sequeira Berberan e Santos (IST/UL/iBB)
PhD programme	Chemistry - IST/UL
Starting date	October 2019

IV.1.3. Master thesis concluded

Name: Bianca Moraes

Title: Valorização de Borrás de Café na Obtenção de Nanopontos de Carbono Luminescentes: Síntese Sustentável, Caracterização e Aplicações

Master: MSc

Date: 3 de Junho de 2022

Supervisor: Alexandra I. Costa

Co-Supervisor: Patrícia D. Barata

IV. 1.4. Degree internships

Pedro Olhero. Preparation of radical photoinitiators for 3D printing. Individual project, Lic. em Engenharia Biomédica. July 2022, Orientadores: **Paulo Coelho e Céu Sousa.**

IV.2. Outreach activities

1. Webinar CQ-VR
- Evaluation of the bioactivity of plants used in traditional medicine in the Northeast of Portugal. 26 Jan 2022. Vânia Graça

IV.3. Projects

IV.3.1. National

IV.3.1.1. CQVR Leadership

1. LIGHT RESPONSIVE NAPHTHOPYRANS WITH FASTER SWITCHING SPEED.

Reference: FCT/PTDC/QUI - QOR/28532/2017.

Funding by: Total fund: 237.423€ / UTAD 229.923€.

CQVR members role: Ceu Sousa, Paulo Coelho.

Status: ***Ongoing project***

IV.3.1.2. CQVR Partnership

1. μ ALGAE2DOT - Utilização de Microalgas na Síntese de Pontos de Carbono Bioactivos

Reference: μ Algae2Dot/IPL/IDI&CA/2022

Starting date: September 5th, 2022

Ending date: September 5th, 2023

Funding by: IPL (Total fund: 5.000 €)

Main contractor: ISEL

Host institution: ISEL

CQVR members role: Alexandra I. Costa (coordinator), Patrícia D. Barata (participant),
José V. Prata (participant).

Status: ***Ongoing project***

**2. MIREDB-Act - Value-Added bioactive compounds from red microalga
Porphyridium cruentum: Production, Isolation and Characterization.**

Reference: MiRedB-Act /IPL/IDI&CA/2021.

Starting date: September 6th, 2021 Ending date: September 5th, 2022.

Funding by: IPL (Total fund: 5.000 €) Main contractor: ISEL Host institution: ISEL.

CQVR members role: Alexandra I. Costa (participant), Patrícia D. Barata (participant).

Status: ***Finished project***

**3. NANOMATE - Carbon Nanomaterials with Antibacterial Activity from Tomato
Industry Wastewater.**

Reference: NanoMate/IPL/IDI&CA/2021.

Starting date: September 6th, 2021 Ending date: September 5th, 2022.

Funding by: IPL (Total fund: 5.000€).

Main contractor: ISEL Host institution: ISEL.

CQVR members role: Alexandra I. Costa (participant), Patrícia D. Barata (coordinator),
José V. Prata (participant).

Status: ***Finished project***

4. GOCOFFEE4H - Compounds related to the quality of Gorongosa`s coffee beans

Reference: GoCoffee4H/IPL/IDI&CA/2021

Starting date: September 6th, 2021 Ending date: September 5th, 2022

Funding by: IPL (Total fund: 5.000 €)

Main contractor: ISEL

Host institution: ISEL

CQVR members role: Patrícia D. Barata (participant).

Status: ***Finished project***

**5. SHAPEFOOD - Sensory and physico-chemical attributes in product design for
the food industry**

Reference: SHAPEFOOD/IPL/IDI&CA/2020

Starting date: September 7th, 2020

Ending date: March 6th, 2022

Funding by: IPL (Total fund: 5.000 €)

Main contractor: ISEL

Host institution: ISEL

CQVR members role: Alexandra I. Costa (participant).

Status: ***Finished project***

IV.5. Awards, Prizes and Medals

Eurico Lima, Andreia G. Barroso, Octávio Ferreira, Renato E. Boto, José R. Fernandes, Paulo Almeida, Samuel M. Silvestre, Adriana O. Santos, Lucinda V. Reis. *Photodynamic antitumor effects evaluation of a picolylamine-bearing benz[e]indole-based squaraine dye against HeLa cells*. 14th National Organic Chemistry and 7th National Medicinal Chemistry Meeting, 20th-22th April 2022 Caparica, Portugal. Best Poster

IV.4. Outputs

IV.4.1. Publications in journals of Journal Citation Reports



IV.4.1.1. Q1 and Q2 Journals

1. Sousa, C.M., Coelho, P.J. Lactone-fused naphthopyran UV photoswitches with fast bleaching in the dark. *Journal of Photochemistry and Photobiology A-Chemistry*, 2022, 424. 113649 **Q2**
2. Costa, A.I., Barata, P.D., Moares, B., Prata, J.V. Carbon Dots from Coffee Grounds: Synthesis, Characterization, and Detection of Noxious Nitroanilines. *Chemosensors*, 2022, 10, 113. <https://doi.org/10.3390/chemosensors10030113>. **Q2**
3. Lima, E., Reis, L.V. 'Lights, squaraines, action!' – the role of squaraine dyes in photodynamic therapy. *Future Medicinal Chemistry*, 2022, 14 (19) (10.4155/fmc-2022-0112 **Q2**
4. Lima, E., Barroso, A.G., Sousa, M.A., Ferreira, O, Boto, R.E., Fernandes, J.R., Almeida, P., Silvestre, S.M., Santos, A.O., Reis, L.V. Picolyamine-functionalized benz[e]indole squaraine dyes: Synthetic approach, characterization and in vitro efficacy as potential anticancer phototherapeutic agents. *European Journal of Medicinal Chemistry*, 2022, 229, 114071. 10.1016/j.ejmech.2021.114071 **Q1**
5. Serrano, J.L., Maia, A., Santos, A.O., Lima, E. Reis, L.V., Nunes, M.J., Boto, R.E.F., Silvestre, S., Almeida, P. An Insight into Symmetrical Cyanine Dyes as Promising Selective Antiproliferative Agents in Caco-2 Colorectal Cancer Cells. *Molecules*, 2022, 27(18), 5779. 10.3390/molecules27185779 **Q2**
6. Sousa, D.A., Ferreira, L.F.V., Fedorov, A.A., do Rego, A.M.B., Ferraria, A.M., Cruz, A.B., Berberan-Santos, M.N., Prata, J.V. Luminescent Carbon Dots from Wet Olive Pomace: Structural Insights, Photophysical Properties and Cytotoxicity. *Molecules*, 2022, 27, 6768. <https://doi.org/10.3390/molecules27196768>. **Q2**
7. Sousa, D.A., Berberan-Santos, M.N., Prata, J.V. Detection of Azo Dyes Using Carbon Dots from Olive Mill Wastes. *Chemosensors*, 2022, 10, 487. <https://doi.org/10.3390/chemosensors10110487>. **Q2**
8. Sousa, M.A., Lima, E., Ferreira, O; Boto, R.E., Almeida, P., Reis, L.V. In Vitro and In Silico Evaluation of Indole-Bearing Squaraine Dyes as Potential Human Serum Albumin Fluorescent Probes. *Chemosensors*, 2022, 10(8), 314 (10.3390/chemosensors10080314) **Q2**

9. Vanessa S. D. Gomes; João C. C. Ferreira; Renato E. F. Boto; Paulo Almeida; José R. Fernandes; Maria João Sousa; M. Sameiro T. Gonçalves; Lucinda V. Reis. "Squaraine Dyes Derived from Indolenine and Benzo[e]indole as Potential Fluorescent Probes for HSA Detection and Antifungal Agents. *Photochemistry and Photobiology*, 2022, 98, 6, 1402-1417 **Q2**
10. Graça, V., Sousa, C.M., Coelho, P.J. Modulation of the fading kinetics of lactone-fused naphthopyran UV photoswitches. *Dyes and pigments*, 2022, 202, 110301 **Q1**
11. Graça, V., Sousa, C.M., Coelho, P.J. Photochromic Lactone-Fused Phenanthropyrans with Broad Absorption and Rapid Color Change. *Bulletin of the Chemical Society of Japan*, 2022, 95, 1272-1279 **Q2**

IV.4.1.2. New Journals (Impact factor pending)

1. Moraes, B., Costa, A.I., Barata, P.D. & Prata, J.V. (2022). Carbon Dots Synthesis from Coffee Grounds, and Sensing of Nitroanilines. *Chem. Proc.* 8, 101. <https://doi.org/10.3390/ecsoc-25-11777>

IV.4.2. Oral presentations

1. Silveiro, C., Bonifácio, V.D.B., Prata, J.V., Costa, A.I., Barata, P.D., Mechanosynthesis as a Green Alternative in Calixarenes Functionalization, 14th National Organic Chemistry Meeting & 7th National Medicinal Chemistry, 20-22 April 2022, Caparica, Lisboa, Portugal.
2. Sousa, D.A., Berberan-Santos M.N., Prata J.V., Luminescent carbon nanomaterials from biomass residues: Structure and luminescence, 5th CQUL Meeting, 12-14 July 2022, Lisbon, Portugal.
3. Eurico Lima, Andreia Barroso, Octávio Ferreira, Renato Boto, José R. Fernandes, Paulo Almeida, Samuel M. Silvestre, Adriana O. Santos, Lucinda V. Reis. The effect of varying the complexity of amines introduced into the squaric ring on the photobiological activity of aminosquaraine dyes. XXVI Encontro Galego-Portugués de Química, 16th-18th November, Santiago de Compostela, Spain.

IV.4.3. Poster presentations at national and international meetings

IV.4.3.1. International meetings

1. Amaro, B., Carvalho, A.P., Costa, A.I., Barata, P.D., Nunes, N., Santos, M.S., Leitão, R., Martins, A., Design of ZSM-5 zeolite through Gemini surfactants for Friedel-Crafts reactions, 8th EuChemS Chemistry Congress (ECC8), Lisbon Congress Center, 28th August-1st September, Lisbon, Portugal.
2. Barata, P.D., Costa, A.I., Semedo, M.C., Martins, S., Antunes, B.G., Prata, J.V., One-pot Microwave-assisted Synthesis of Bioactive Carbon Dots from Tomato Industry Waste, 5th International Conference on Green Chemistry and Sustainable Engineering (GreenChem-22), Università degli Studi Niccolò Cusano, 20-22 July 2022, Rome, Italy.
3. Cintra, C., Semedo, M.C., Martins, S., Barata, P.D., Costa, A. I., Cardoso, H., Silva, J.L., Production and Extraction Strategies for High-Value Bioactive Compounds from *Porphyridium cruentum*,
4. Cintra, C., Semedo, M.C., Martins, S., Barata, P.D., Figueiredo, A.S., Cardoso, H., Silva, J.L., Production and Isolation of Extracellular Bioactive Compounds from the Red Microalgae *Porphyridium cruentum*, 5th International Conference on Green Chemistry and Sustainable Engineering (GreenChem-22), Università degli Studi Niccolò Cusano, 20-22 July 2022, Rome, Italy.
5. Costa, A.I., Barata, P.D., Moraes, B., Prata, J.V., Toxic Metals Detection by Green Fluorescent Carbon Dots, 5th International Conference on Green Chemistry and Sustainable Engineering (GreenChem-22), Università degli Studi Niccolò Cusano, 20-22 July 2022, Rome, Italy.
6. Eurico Lima, Andreia G. Barroso, Octávio Ferreira, Renato E. Boto, José R. Fernandes, Paulo Almeida, Samuel M. Silvestre, Adriana O. Santos, Lucinda V. Reis. Photodynamic antitumor effects evaluation of a picolylamine-bearing benz[e]indole-based squaraine dye against HeLa cells. 14th National Organic Chemistry and 7th National Medicinal Chemistry Meeting, 20th-22th April 2022 Caparica, Portugal.
7. Gabriel, C., Semedo, M.C., Martins, S., Barata, P.D., Cardoso, H., Silva, J.L., Evaluation and Characterization of High-Value Bioproducts Isolated from an Industrially Produced Microalgae, 5th International Conference on Green Chemistry and Sustainable Engineering (GreenChem-22), Università degli Studi Niccolò Cusano, 20-22 July 2022, Rome, Italy.

8. Gabriel, C., Semedo, M.C., Martins, S., Barata, P.D., Cardoso, H., Silva, J.L., Production and evaluation of Extracellular polymeric substances from *Chlorococcum amblystomatis*, 5th International Conference on Green Chemistry and Sustainable Engineering (GreenChem-22), Università degli Studi Niccolò Cusano, 20-22 July 2022, Rome, Italy.
9. Pacheco, M. L., Pinto, T. V., Sousa, C. M., Guedes, A., Blanco, G., Pintado, J. M., Coelho, P. J., Freire, C., Pereira, C.; "Facing structural modifications in WO₃ nanomaterials for improved light-responsive textiles" 7th ed. of Nanotech France 2022 Int. Conference and Exhibition, França, Junho 2022.
10. Pacheco, M. L., Pinto, T. V., Sousa, C. M., Guedes, J. M., Coelho, P. J., Freire, C., Pereira, C.; WO₃_naphthopyran hybrid nanomaterials: the new frontier to accomplish Conference on Multifunctional, Hybrid and Nanomaterials, Italia, 19 -22 October 2022 Genoa
11. Sousa, D.A., Berberan-Santos M.N., Prata J.V., Fluorescence Anisotropy – A powerful tool for the characterization of Biomass derived Fluorescent Carbon Nanodots, 17th Conference on Methods and Applications in Fluorescence (MAF2022), 11-14 September 2022, Gothenburg, Sweden.
12. Sousa, D.A., Berberan-Santos M.N., Prata J.V., Fluorescence Properties of Biomass-Derived Carbon Nanodots – Structural Implications, 7th JIF – Jornadas Ibéricas de Fotoquímica, 5-8 September 2022, Alcalá, Spain.
13. Sousa, D.A., Berberan-Santos M.N., Prata J.V., From an abundant agrochemical waste to a highly sensitive and selective sensor of Methyl Orange, 8th EuChemS Chemistry Congress, 28 August – 1 September 2022, Lisbon, Portugal.
14. Eurico Lima, Octávio Ferreira, Renato Boto, José R. Fernandes, Paulo Almeida, Samuel M. Silvestre, Adriana O. Santos, Lucinda V. Reis. Biotin-bearing squaraine dyes as potential antitumor photodynamic agents: an in vitro preliminar study. XXVI Encontro Galego-Portugués de Química, 16th-18th November, Santiago de Compostela, Spain.
15. Lucinda V. Reis, Eurico Lima, Margarida A. Sousa, Andreia G. Barroso, Renato E. Boto, Paulo Almeida. Squaraine dyes derived from benz[e]indole as fluorescent probes for human serum albumin detection and quantification. XXVI Encontro Galego-Portugués de Química, 16th-18th November, Santiago de Compostela, Spain.
16. Lucinda V. Reis, Vanessa S. D. Gomes, João C. C. Ferreira, Renato E. Boto, Paulo Almeida, José R. Fernandes. Benz[e]indole and indolenine squaraine

dyes derivatives as antifungal agents and fluorescent probes. XXVI Encontro Galego-Portugués de Química, 16th-18th November, Santiago de Compostela, Spain.

IV.4.3.2. National meetings

1. Barata, P.D., Costa, A.I., Semedo, M.C., Martins, S., Antunes, B.G., Prata, J.V., Carbon Dots from Tomato Industry Waste with Antibacterial Activity, 14th National Organic Chemistry Meeting & 7th National Medicinal Chemistry, 20-22 April 2022, Caparica, Lisboa, Portugal.
2. Barata, P.D., Costa, A.I., Costa, S., Prata, J.V., A New Class of Supramolecular Calixarene-Fullerene Complexes, 14th National Organic Chemistry Meeting & 7th National Medicinal Chemistry, 20-22 April 2022, Caparica, Lisboa, Portugal.
3. Barata, P.D., Costa, A.I., Semedo, M.C., Martins, S., Antunes, B.G., Prata, J.V., Carbon Dots com Atividade Antibacteriana a partir de Resíduos da Indústria do Tomate, iFEQB - Fórum de Engenharia Química e Biológica, Instituto Superior de Engenharia de Lisboa, Instituto Politécnico de Lisboa, 10-12 de Maio de 2022, Lisboa, Portugal.
4. Barata, P.D., Costa, A.I., Semedo, M.C., Martins, S., Antunes, B.G., Prata, J.V., Tomato Industry Waste: A Sustainable Source for the Synthesis of Fluorescent Carbon Dots with Antimicrobial Activity, Encontro com a Ciência e Tecnologia em Portugal (Encontro Ciência' 22), 16-18 de Maio de 2022, Lisboa, Portugal.
5. Cintra, C., Cardoso, M.H., Figueiredo, A.S., Barata, P.D., Semedo, M.C., Martins, S., Produção, Isolamento e Caracterização de Compostos Bioativos da Microalga Vermelha *Porphyridium cruentum*, iFEQB - Fórum de Engenharia Química e Biológica, Instituto Superior de Engenharia de Lisboa, Instituto Politécnico de Lisboa, 10-12 de Maio de 2022, Lisboa, Portugal.
6. Cintra, C., Semedo, M.C., Martins, S., Barata, P.D., Cardoso, H., Silva, J.L., Produção da Microalga Vermelha *Porphyridium cruentum* para a Obtenção Compostos Bioativos, Encontro com a Ciência e Tecnologia em Portugal (Encontro Ciência' 22), 16-18 de Maio de 2022, Lisboa, Portugal.
7. Gabriel, C., Semedo, M.C., Martins, S., Barata, P.D., Cardoso, H., Silva, J.L., Avaliação e Caracterização de Bioprodutos de Valor Acrescentado Isolados de uma Microalga Produzida Industrialmente, Encontro com a Ciência e Tecnologia em Portugal (Encontro Ciência' 22), 16-18 de Maio de 2022, Lisboa, Portugal.

8. Silveiro, C., Bonifácio, V.D.B., Prata, J.V., Costa, A.I., Barata, P.D., Mechanosynthesis as a Green Alternative in Calixarenes Functionalization, 14th National Organic Chemistry Meeting & 7th National Medicinal Chemistry, 20-22 April 2022, Caparica, Lisboa, Portugal.
9. Sousa, D.A., Berberan-Santos M.N., Prata J.V., Wet pomace constituents and their use as raw material to produce highly luminescent carbon nanodots – Sensory and biomedical applications, 2nd Institute for Bioengineering and Biosciences (iBB) workshop, 27 September, 2022, Lisbon, Portugal.
10. Sousa, D.A., Berberan-Santos M.N., Prata J.V., Carbon Nanomaterials from Wet Pomace, Encontro Com a Ciência e Tecnologia em Portugal (Encontro Ciência' 22), 16-18 May 2022, Lisbon, Portugal.
11. Gabriel, C., Cardoso, M.H., Martins, S., Barata, P.D., Semedo, M.C., Avaliação e Caracterização de Bioprodutos de Valor Acrescentado Isolados de uma Microalga Produzida Industrialmente, iFEQB - Fórum de Engenharia Química e Biológica, Instituto Superior de Engenharia de Lisboa, Instituto Politécnico de Lisboa, 10-12 de Maio de 2022, Lisboa, Portugal.
12. Pimenta, S.R., Barata, P.D., Ramalho, J.C., Ribeiro-Barros, A.I., Martins, S., Semedo, M.C. Extração e caracterização de polissacáridos isolados do grão de café verde da Serra da Gorongosa, iFEQB - Fórum de Engenharia Química e Biológica, Instituto Superior de Engenharia de Lisboa, Instituto Politécnico de Lisboa, 10-12 de Maio de 2022, Lisboa, Portugal.
13. Pimenta, S., Shimura, S., Barata, P.D., Semedo, M.C., Martins, S., Leitão, A.E., Ramalho, J.C, Ribeiro-Barros, A.I., Quality assessment of Gorongosa Coffee: polysaccharides and antioxidant properties of green beans, and acrylamide accumulation in roasted beans, Encontro com a Ciência e Tecnologia em Portugal (Encontro Ciência' 22), 16-18 de Maio de 2022, Lisboa, Portugal.

IV.5. Participation in National and International Organizations

IV.5.1. Participation in Committees

1. Costa, A.I. & Barata, P.D.: Organizing Committee Members of I International Meeting Molecules 4 Life (CQVR-UTAD) to be held from 20-22 September 2023 <https://molecules4life-2023.events.chemistry.pt/>

IV.5.2. Participation in editorial and special issues of international scientific journals

IV.5.2.1. Special Issue Guest Editor

1. Materials, MDPI AG, Basel (Switzerland), Special Issue: "Biological Applications and Synthesis of Organic Synthetic Dyes", 2022. Deadline for manuscript submissions: 20 March 2023. Lucinda V. Reis
2. Pharmaceuticals, MDPI AG, Basel (Switzerland), Special Issue "Anticancer Compounds in Medicinal Plants 2023", 2022, Guest Editor P. Santos and L. Barros.

IV.5.2.2. Reviewing for International Scientific Journals

1. Costa, A.I.: Chemosensors (1), Molbank (1). Prata, J.V.: ACS Materials & Interfaces (2), ACS Sensors (1), Catalysts (2), Chemical Communications (1), Dalton Transactions (3), Journal of Molecular Structure (2), Materials Advances (2), Molecules (1), Nanomaterials (1), New Journal of Chemistry (3), RSC Advances (3).