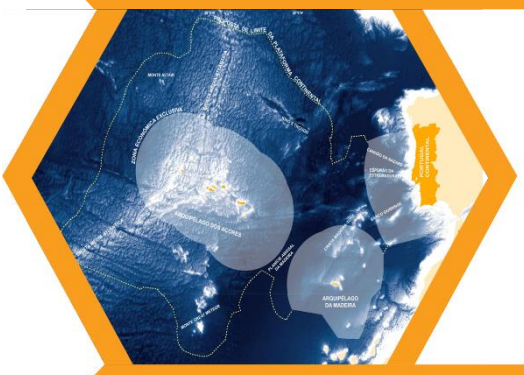

10-11 SEPTEMBER 2020

27th APDR CONGRESS

Sustainable Management of the Sea for Sustainable Regional Development

ANGRA DO HEROÍSMO, TERCEIRA, AZORES, PORTUGAL

PROGRAM

and

ABSTRACTS

APDR Associação Portuguesa para o Desenvolvimento Regional

RSAI REGIONAL SCIENCE ASSOCIATION INTERNATIONAL

ersa European Regional Science Association

GOVERNO DOS AÇORES

123 FROM SCIENCE TO PEOPLE: MATERIALS INNOVATION AS KEY FACTOR FOR SUSTAINABLE DEVELOPMENT

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Abstract: Due to the exponential growth of the world population and the shortage of resources to meet it, sustainable development is no longer a choice, but rather a decision based on emerging necessities and active regulations. Fibrenamics Azores, powered by CIMPA (Centro de Inovação em Materiais e Produtos Avançados), aims to contribute to the development of Azorean economy and industry through scientific and technological innovation. Its dynamics and strategy reflect the intrinsic partnership with Fibrenamics, the International Platform of the University of Minho. The regional strategy involves using smart sustainability as the main scientific core, which includes innovative materials (natural fibres, biopolymers, residue valorisation, nanomaterials), smart sensorization (responsive materials or sensor integration), innovative processes (nanotechnology), among others.Fibrenamics Azores along with its several partners, has ongoing projects that cover different approches on how to turn market needs and good ideas into products and, thus, effectively contribute to a sustainable world in an economic and socially responsible way. From the raw material standpoint, making use and valorising endogenous resources is one of the strategies in place. For example, the project PineappleComposite, in which the pineapple plantation foliage was studied, characterized and prepared to be reused in the production of urban furniture elements. BasaltWasteComposite project is another example of waste valorisation, in which mineral waste from basalt extraction was studied, fully characterized and prepared to be used in the production of lightweight composites with antibacterial activity, that may be used as countertops, handles or knobs, among other possibilities. Still in the early stages, but with great potential to have social impact, is the investigation of casein fibre obtained from Azorean milk that is not fit for consumption. For that, Fibrenamics Azores, and partners founded MilkFibre, the first regional Research Nucleus, for the development of Milk Fibre, which is considered a promising sustainable alternative for petroleum-based products, with applications in several fields: medical, pharmaceutical, packaging, food additive, textile, among others. On a different take, within the context of a government initiative, creatives with different backgrounds (industrial design, product design, conceptual design, among others) were challenged to imagine new products from endogenous Azorean materials (rock, fibre, soil, wood). Among a considerable set of interesting proposals, the selected winners comprised a biodegradable tooth brush made from “conteira”, a modular wine cellar made of cryptomeria wood, pozzolanic-based eco-friendly set of tiles and urban furniture made of basalt rock. From this point, Fibrenamics Azores, together with its partners, were able to materialize the winning ideas by studying the materials, processes and technologies. Fibrenamics Azores works to adopt more sustainable practices, such as choosing responsible raw materials, applying eco/green product design strategies, implementing sustainable processes, and considering the life cycle of the final product. This responsible performance will not only contribute greatly to the environment, but also allow the involved partners to improve brand image, achieve happier shareholders and reduce costs.

124 COVID-19 NAS CIDADES AFRICANAS, O CASO DE CAIRO, DA CIDADE DO CABO E DAS CIDADES DA ÁFRICA LUSÓFONA

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Abstract: O artigo analisa os principais impactos causados pela pandemia da Covid-19 em algumas cidades africanas. São analisadas as cidades de Cairo, Cidade do Cabo e, em conjunto, o grupo das cinco cidades da África Lusófona (PALOPS). Segundo a análise realizada, as causas da propagação rápida do vírus nas cidades de Cairo e Cidade de Cabo, relacionam-se quer com o número de turistas que estas cidades recebem, quer com a dimensão da sua população. A cidade do Cairo, além de ser uma das mais populosas do continente africano, tem também uma forte presença de economia informal, nomeadamente através dos mercados situados nos arredores da cidade, os quais constituem um meio importante de propagação da doença. Nestas duas cidades, os impactos da pandemia já se fazem sentir, tanto a nível económico como social. Na Cidade do Cabo regista-se uma quebra na economia local, principalmente no comércio, sendo que o mercado bolsista também já reflete os efeitos negativos da pandemia. Na Cidade do Cairo, um dos principais impactos sentido é precisamente no setor de economia informal, do qual muitas famílias dependem. Quanto ao grupo das cinco cidades dos PALOPS, o número de turistas que recebem anualmente é muito inferior, relativamente às duas outras cidades, Cairo e Cidade do Cabo, o que pode explicar o facto de registarem um número relativo de poucos casos confirmados.

125 BEFORE AND AFTER THE COVID-19 PANDEMIC IN WINE TOURISM. THE CASE OF THE BEIRA INTERIOR WINE ROUTE

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Abstract: In 2018, Portugal was distinguished for the second consecutive time as the best tourist destination in the world. In addition, Portugal has been taking over as an international reference country in the production of prestigious wines worldwide, such as Barca Velha, Pêra Manca, Principal, Carrocel, among others. Although not yet a destination of wine tourism of reference worldwide, in recent years it has been affirming itself as such, as result of a diversified offer that extends throughout the national territory, allowing brands creation of destination identity that must be preserved, highlighted and valued. Knowing that Portugal begins to be recognized as one of the best travel destinations for gastronomy & wines and this segment is one of the strategic assets suggested in successive strategic plans for Tourism, it is understood, therefore, that it is important to know and inventory the different wine routes existing in the national territory, as determining tools for the promotion and dissemination of wine tourism. However, as of 26 February 2020, with the emergence of the first suspected cases of people infected with COVID-19 in Portugal, it seems that all this has changed (DDS, 2020). People stopped traveling. Air transport and shipping have been suspended, restaurants have closed or changed the way of business, people's movement has been restricted, which has led to all activities directly or indirectly linked to tourism having closed, or in the process of closing its doors. For the moment, there is a war against Covid-19, which we all know

what it is, but we cannot immediately identify and could be anywhere. There is a feeling of helplessness in fighting this virus as it may be just around the corner and we cannot uncover it. We do know that one of the main ways of spreading this virus is social contact. On the other hand, tourism in general and wine tourism in particular, is provided by people and to people. Social contact is one of the pillars of it. Hence the big questions that arise in the future are: how can the trust of wine-tourists be recovered; what kinds of experiences will be offered; which innovations will emerge regarding the tourism offer. For this, we will interview all members of the Beira Interior Wine Route.

126 MICROBIAL COMMUNITIES AS A BIOMONITORING TOOL IN THE GROUNDWATERS FROM CENTRAL PORTUGAL

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Abstract: The aquifers have a vital role in sustaining ecosystems and enable human adaptation to a changing climate, being increasingly strategic to maintain global water and food security. In Portugal, groundwater supplies about 70 % of the freshwater needs. Groundwater pollution is, therefore, a serious concern. Agriculture and industry have directly or indirectly introduced a large number of inorganic and organic contaminants into groundwater. This study aimed to assess the microbial community and understand their role in the biomonitoring and bioremediation of groundwater for public supply located in the Mondego hydrographic basin, central Portugal. Forty-three groundwater samples were collected and analyzed to determine physic-chemical parameters, the concentration of nitrates, nitrites, phosphates, total phosphorus, chlorine and sulfates, intestinal enterococci and Escherichia coli, as well as microbial diversity by cultivation methods. The groundwater samples present pH values ranging from 4.8 to 8.0, electrical conductivities between 50 and 847 µS/cm, dissolved oxygen concentrations between 2.5 and 6.8 mg/L. The chloride, phosphate, total phosphorus, nitrate and nitrite concentrations present maximum values of 96, 2.1, 1.4, 72, 0.02 and 180 mg/L, respectively. The results of intestinal enterococci ranging from 1.0 to 229 NMP/100mL and Escherichia coli between 1.0 and 70 NMP/100mL. Two hundred nighty four bacterial strains were isolated from 43 water samples. At this moment, 86 bacterial strains were identified from 16 sampling sites by a comparative analysis of the 16S rRNA gene partial sequence. Most abundant isolates belonged to the genera Bacillus (20.9%), Stenotrophomonas (12.8%), Pseudomonas (8.1%), Curtobacterium (7.0%), Acinetobacter (3.5%), Microbacterium (3.5%), Paracoccus (3.5%) and Raoultella (3.5%). The microbial composition of water samples was affected by the chemical properties of the water. The samples grouped according to pH values, electrical conductivity, chloride and nitrate concentrations. These are preliminary results of the present study which will contribute to determine the microbial community's response to contamination and thus find possible indicators of contamination for groundwater.

127 ARACATA "SEM ANOS"

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Abstract: O desafio deste um projeto teve como base um desafio do Instituto para a Promoção da América Latina e Caraíbas (IPDAL) cujo teor era promover o turismo na América Latina, em áreas menos desenvolvidas e a escolha recaiu na Colômbia como destino a desenvolver. De maneira a compreender todo o envolvimento turístico explorado na Colômbia, propôs-se explicar e analisar o turismo existente neste país, bem como os dois tipos de turismo que o projeto idealiza implementar no país, estes são o turismo literário, focado na obra "Cem Anos de Solidão" de Gabriel García Márquez, e o turismo militar, focado nas FARC. Pretende-se ainda atrair possíveis interessados a colaborar de forma a fortalecer relações com outras entidades, nacionais ou internacionais, que ajudem a fazer crescer o projeto em si bem como a Colômbia enquanto destino turístico, algumas destas são a empresa BSD Consulting, o Instituto do Turismo da Colômbia e o próprio governo. Cada vez mais as experiências são o grande objetivo dos turistas, uma vez que, procuram experimentar algo que não faça parte do seu dia a dia e que seja original e diversificado e, por isso, pensou-se em desenvolver uma alternativa aos normais resorts, que acabam por proporcionar sempre o mesmo tipo de atividades. O projeto, a criação de um hotel sustentável e inovador, irá portanto proporcionar o contacto máximo com os costumes e valores da localidade selecionada, o menu do restaurante será dedicado à cozinha colombiana, utilizando produtos locais e biológicos, ter-se-á também o maior dos interesses em projetar pequenos documentários a cerca dos movimentos das forças armadas (FARC) num espaço que irá ser criado no hotel, mostrar também aquilo que é entendido como as festas e músicas tradicionais, não esquecendo os trajes de cerimónia e as suas tradições. Sabendo que o país nem sempre é apresentado da melhor maneira pela existência de conflitos políticos, pobreza e pela falta de empreendedorismo turístico, um dos principais objetivos a alcançar com este projeto é poder dar a conhecer uma nova imagem da Colômbia tanto no estrangeiro, como no próprio país; outro objetivo é criar um projeto que assente em algumas normas do turismo sustentável : criação de novos postos de trabalho e proporcionar educação à população (ODS 4); promover a cultura e os produtos regionais (ODS 8); aumentar também o número de turistas que visitam a Colômbia fazendo com que este destino se torne cada vez mais apetecível, não só pelas suas belas paisagens, mas sim pela cultura, pela gastronomia e pela história. Dar-se-á prioridade a empregar população local, ainda que isto implique utilizar recursos para a educar e formar.

128 UNITING PATAGONIA – THE LAND OF THE GIANTS

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Abstract: A Patagónia apresenta uma oportunidade enorme para o Chile, pois, apresenta um potencial turístico gigantesco com base nos seus diversos recursos naturais e culturais. Encontra-se, no entanto, numa situação pouco favorável, com uma infraestrutura turística pouco desenvolvida, fraca acessibilidade e, no entender do grupo, uma oferta turística insuficientemente explorada e muito pouco diversificada. Após a realização da análise à região e os seus principais componentes, foi criado um itinerário que aproveita vários aspetos encontrados no estudo da região. Desde as enormes florestas da Tierra del Fuego com a sua biodiversidade e ambiente